



January 4, 2012

Project 061.01307.011

Ms. Kimberly N. Tisa
Regional PCB Coordinator (OSRR07-2)
Office of Ecosystem Protection
U.S. Environmental Protection Agency, Region 1
5 Post Office Square, Suite 100
Boston, Massachusetts 02109-3912

RE: Final Completion Report, Submitted Pursuant to the PCB Risk-Based Approval Under 40 CFR §§ 761.61(c) and 761.79(h) of the U.S. EPA dated August 5, 2011
Central Catholic High School
300 Hampshire Street
Lawrence, Massachusetts

Dear Ms. Tisa:

On behalf of Central Catholic High School (CCHS), Ransom Consulting, Inc. (Ransom) has prepared this Final Completion Report, pursuant to the PCB Risk-Based Approval Under 40 CFR§ 761.61(c) and 761.79(h), issued to CCHS by the U.S. Environmental Protection Agency (U.S. EPA) on August 5, 2011 (the Risk-Based Approval). The Risk-Based Approval was prepared in response to CCHS's Proposed Amended Final Risk Reduction Plan, submitted by Ransom to the U.S. EPA on December 16, 2010; Addendum No. 1 thereto, submitted by Ransom to the U.S. EPA on May 20, 2011; and Addendum No. 2 thereto, submitted by Ransom to the U.S. EPA on July 22, 2011. A copy of the Risk-Based Approval is provided as Attachment A.

This Final Completion Report is timely filed pursuant to Condition 23 of the Risk-Based Approval, as activities under the Partial Plan Approval were completed with the receipt of confirmatory indoor air sampling results on October 5, 2011.

EXECUTIVE SUMMARY

The CCHS campus includes three buildings: the 1940s Building (which includes the gymnasium and some classrooms), the 1970s Building (which includes classrooms, the library, and the teacher's lounge), and the South Addition (which was constructed in 2003 and consists of additional classrooms and administrative offices). With the exception of the library (Room 305), the rooms of the 1970s Building are heated by individual, in-room forced-hot-water units. Multiple ventilation/air exchange systems exist throughout the 1970s Building. The library is heated and cooled by a dedicated HVAC system which consists of roof-top heating and cooling units.

In 2006, CCHS planned to replace the original windows of the 1970s Building with energy-efficient windows, and while it was in the process of doing so, the window caulking surrounding the metal window

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frames was found to contain PCBs. In September 2006, with the oversight of the U.S. EPA, PCBs (identified as Aroclors 1254 and 1262) were detected in caulking samples collected from the window frames at total concentrations ranging from 9,420 to 40,300 milligrams per kilogram (mg/kg). These same Aroclors were also detected in the samples of the underlying concrete at total concentrations ranging from 1,549 to 6,050 mg/kg.

Between December 2006 and August 2011, a variety of assessment and risk reduction activities were completed at the 1970s Building to address PCB-contaminated building materials, including (without limitation) the removal of PCB-contaminated window caulking and materials, doorway caulking and materials, caulking around building panels and exterior vents, sound-damping insulation associated with in-room heaters, fluorescent light ballasts (which may not have contained PCBs); the encapsulation of PCB-contaminated interior and accessible exterior concrete surfaces (window openings/sills, door frames and concrete panel joints); the thorough cleaning of surfaces and items in the Library (Room 305); and the collection and chemical analysis of bulk concrete, wipe and indoor air samples.

Based on the August 2011 wipe sampling of epoxy-encapsulated surfaces (e.g., window openings/sills, door frames, and concrete panel joints) and high contact surfaces (e.g., desktops, lecterns), the abatement and risk reduction efforts in the 1970s Building have successfully mitigated potential future exposures to PCBs which may still be present in encapsulated concrete. Following the completion of the abatement activities and the library cleaning, indoor air samples were collected in August and September 2011. PCB concentrations in indoor air fell even further below their corresponding U.S. EPA risk-based “screening” levels.

The removal and risk reduction activities completed at the 1970s Building between July 2010 and August 2011 have successfully reduced the risk to exposure to PCBs, including the remaining PCB-contaminated building materials (i.e., contaminated concrete encapsulated by multiple layers of epoxy paint). Pending receipt of approval from the U.S. EPA, long-term monitoring and maintenance will begin.

BACKGROUND

Site Description

The CCHS campus includes three buildings: the 1940s Building (which includes the gymnasium and some classrooms), the 1970s Building (which includes classrooms, the library, and the teacher’s lounge), and the South Addition (which was constructed in 2003 and consists of additional classrooms and administrative offices). With the exception of the library (Room 305), the rooms of the 1970s Building are heated by individual, in-room forced-hot-water units. Multiple ventilation/air exchange systems exist throughout the 1970s Building. The library is heated and cooled by a dedicated HVAC system which consists of roof-top heating and cooling units.

Discovery of PCBs in Caulking

In 2006, CCHS planned to replace the original windows of the 1970s Building with energy-efficient windows, and while it was in the process of doing so, the window caulking surrounding the metal window frames was found to contain PCBs. In September 2006, with U.S. EPA oversight, Axiom Partners, Inc.

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collected four samples of window caulking and four samples of the underlying concrete from the 1970s Building. PCBs, identified as Aroclors 1254 and 1262, were detected in each of the four caulking samples at total concentrations ranging from 9,420 to 40,300 milligrams per kilogram (mg/kg). These same Aroclors were also detected in the samples of the underlying concrete at total concentrations ranging from 1,549 to 6,050 mg/kg.

Initial Response Actions

Between December 2006 and April 2010, CCHS, with the assistance of Ransom and under the guidance, approval and oversight of the U.S. EPA, completed a range of assessment and risk reduction activities at the 1970s Building to address PCB-contaminated building materials that included (without limitation) window caulking and materials, doorway caulking and materials, caulking around building panels and exterior vents, and sound-damping insulation.

The assessment and risk reduction activities also included (without limitation) the collection of wipe samples from a variety of surfaces (high-contact work surfaces such as desks and lecterns, window sills, air-handling ducts, and classroom heating units), the collection of bulk building-material samples (caulking, concrete, air filter media, and sound-damping insulation), the collection of indoor air samples, the removal and replacement of the exterior windows, the painting of window sills with an epoxy coating, and the removal of caulking from the two emergency exits and the main entrance doorway to the 1970s Building.

The results of the foregoing assessment and risk-reduction activities were presented to the U.S. EPA in a document titled "Final Plan for Risk-Based Disposal and Management of Polychlorinated Biphenyl (PCB)-Contaminated Building Materials, 1970s Building, Central Catholic High School, 300 Hampshire Street, Lawrence, Massachusetts," dated June 2, 2010 (the Notification). On July 6, 2010, the U.S. EPA partially approved the Notification with several conditions (the Partial Approval). A copy of the Partial Approval is provided as Attachment A. As presented in the Notification, the objective of the work was to address remaining PCB-contaminated building materials which were identified in the 1970s Building as follows:

1. Remove accessible sound-damping insulation from 28 affected heating units for appropriate disposal;
2. Remove exterior caulking associated with air intake and exhaust vents;
3. Remove potential PCB-containing fluorescent light ballasts;
4. Remove potential PCB-contaminated caulking present between concrete building panels on the third floor of the 1970s Building (as observed during the course of the June and July 2008 window removal activities); and
5. Apply two dissimilarly colored epoxy coatings to affected concrete surfaces (window openings, door frames, and concrete panel joints).

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Following the completion of abatement Items 1 through 4, above, Ransom proposed to complete the following post-abatement sampling:

1. Collection of air samples from the three locations at which indoor air samples were previously collected (first-floor hallway, Classroom 204, and the library [Room 305]) for PCB analysis by U.S. EPA Method TO-10, Determination of PCB Congeners in Ambient Air Using Low Volume Polyurethane Foam (PUF);
2. Collection of an outdoor air sample, collected and analyzed in the same manner as the indoor air samples; and
3. Collection of wipe samples from a variety of interior surfaces for confirmatory PCB analysis by U.S. EPA Method 8082.

On July 6, 2010, the U.S. EPA issued its Partial Approval, approving the following elements of the Notification:

1. Removal of accessible sound-damping insulation from the 23 affected heating units or removal and appropriate disposal and replacement of the heating units themselves, with a cleanup goal of reducing PCB concentrations on metal surfaces of the heaters to 1 microgram per 100 square centimeters (1 $\mu\text{g}/100\text{ cm}^2$). As stated above, during the implementation phase of the heater abatement activities, Ransom determined that there were 28 affected heater units;
2. Removal of exterior caulking associated with air intake and exhaust vents. The U.S. EPA further instructed that the concrete exposed during the removal of the exterior caulking be encapsulated prior to installation of new caulking;
3. The U.S. EPA cautioned that the single coat of epoxy applied to the window sills “may not be sufficient as an encapsulation method for the high PCB concentrations that have been identified in the building substrate”;
4. The U.S. EPA further cautioned that CCHS had not yet adequately justified its proposed plan to encapsulate PCB-contaminated porous surfaces, and directed CCHS to consider additional cleanup and disposal alternatives to further its Final Plan;
5. The U.S. EPA indicated that the recently installed caulking (associated with the two ground-floor emergency exits and the Hampshire Street entrance to the 1970s Building) may have become contaminated by PCBs present in the underlying concrete, as the concrete had not been coated with a sealant prior to installation of the new caulking; and
6. The U.S. EPA required additional indoor air sampling, which CCHS conducted in August 2010, the results of which indicated that PCB concentrations had fallen below the U.S. EPA’s recently developed and published risk-based “screening” levels.

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Amended Final Risk Reduction Plan

On December 16, 2010, Ransom submitted a document to the U.S. EPA titled “Final Report of Risk-Reduction Measures Taken Under Partial Plan Approval of July 6, 2010 and Proposed Amended Final Risk Reduction Plan, Polychlorinated Biphenyl (PCB)-Contaminated Building Materials, 1970s Building, Central Catholic High School, 300 Hampshire Street, Lawrence, Massachusetts.” This document presented the results of the additional assessment and abatement activities completed between July 21 and August 26, 2010:

1. The removal of PCB-contaminated sound-damping insulation from 28 heating units located in the 1970s Building such that PCB concentrations on affected surfaces were reduced to below 1 $\mu\text{g}/100\text{ cm}^2$;
2. The removal and replacement of PCB-contaminated caulking from the exterior vents of the 1970s Building;
3. The encapsulation of the concrete surround associated with the exterior vents;
4. The replacement of approximately 250 fluorescent light ballasts in the 1970s Building;
5. The results of post-abatement wipe and indoor air sampling;
6. An evaluation of PCB Cleanup Alternatives, which included a comparison of an encapsulation-based cleanup approach (encapsulation strategy) to the removal of PCB-contaminated concrete (removal strategy). As a result of the alternatives analysis, the removal of PCB-contaminated concrete was determined to not be feasible and the encapsulation of PCB-contaminated concrete in the 1970s Building was identified as the best overall approach for preventing exposure to PCBs at the 1970s Building; and
7. To address PCB-contaminated building substrates, primarily concrete, further encapsulation was proposed using two dissimilar epoxy coatings, of interior building openings (windows and doorways) and accessible, exterior building openings where PCB-containing caulking may have existed. Ransom also proposes a thorough and comprehensive cleaning of the library in an effort to mitigate the airborne dust circulating in the library. Following these efforts, Ransom proposed to collect wipe and indoor air samples from various locations throughout the 1970s Building. In addition, Ransom also proposed to assess the caulking observed between some of the building panels on the third floor of the 1970s Building for the presence of PCBs.

Risk Reduction Plan Addenda No. 1

To address the U.S. EPA’s comments on the December 16, 2010 Amended Final Risk Reduction Plan, Ransom prepared a document titled “Addendum No. 1, Proposed Final Risk Reduction Plan, Polychlorinated Biphenyl (PCB)-Contaminated Building Materials, 1970s Building, Central Catholic High School, 300 Hampshire Street, Lawrence, Massachusetts” dated May 20, 2011.

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In Addendum No. 1, Ransom presented the results of assessment of the caulking observed on the third floor of the 1970s Building. On May 6, 2011, Ransom collected two composite bulk samples of the caulking observed in the joints between certain building panels on the third floor of the 1970s Building. The samples, identified as BS301-BS-050611 and BS302-BS-050611, were collected from the south gallery hallway and north gallery hallway, respectively. The exterior sides of the north and south gallery hallways have six vertical sections of concrete building panels that contained caulking in the joints. The interior side of the hallway abuts the auditorium and does not include concrete panel joints. PCBs, identified as Aroclor 1254 and 1260, were detected in the two caulking samples at total concentrations of 45,300 and 19,340 mg/kg.

Accordingly, the proposed addendum to the Proposed Amended Final Risk Reduction Plan included the following:

1. Removal of the third floor building panel caulking; and
2. Encapsulation of the exposed concrete at each affected joint.

Risk Reduction Plan Addenda No. 2

Following submittal of Risk Reduction Plan Addendum No. 1, the U.S. EPA provided additional comments regarding the previously completed Evaluation of PCB Cleanup Alternatives, including as part of the December 16, 2010, Amended Final Risk Reduction Plan, requesting (a) an evaluation of the area above the drop ceiling in the library (Room 305), and (b) additional details regarding the proposed post-cleanup sampling plan. In response, Ransom submitted to the U.S. EPA a report titled "Addendum No. 2, Proposed Final Risk Reduction Plan, Polychlorinated Biphenyl (PCB)-Contaminated Building Materials, 1970s Building, Central Catholic High School, 300 Hampshire Street, Lawrence, Massachusetts" dated July 22, 2011.

As presented in Addendum No. 2, Ransom proposed a thorough and comprehensive cleaning of the library in an effort to mitigate the airborne dust circulating in the library. To this end, on June 15, 2011, Ransom determined that the HVAC system for the library has only air supply ducting and the area above the drop ceiling serves as a return-air plenum. In order to determine whether the area above the drop ceiling needed to be included in the cleaning program, on June 23, 2011, Ransom collected six wipe samples from the beams and ceiling tile located in the space above the dropped ceiling. PCBs were not detected in the six samples at concentrations above the laboratory reporting limit of 0.5 µg/100 cm². Accordingly, this space was not included in the thorough and comprehensive cleaning of the library.

Addendum No. 2 provided further clarification regarding the areas of exposed concrete subject to encapsulation and the encapsulant application methods. The Addendum also presented an expanded post-cleanup sampling program. The addendum also included construction durations and estimated costs for various removal-based and encapsulation-based cleanup methods in support of the previously completed Evaluation of PCB Cleanup Alternatives.

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Final Risk-Based Approval

On August 5, 2011, the U.S. EPA issued its final Risk-Based Approval (Final Approval) authorizing CCHS to proceed with the remaining risk reduction measures as presented in the December 16, 2010, Amended Final Risk Reduction Plan; May 20, 2011, Risk Reduction Plan Addendum No. 1; and July 22, 2011, Risk Reduction Plan Addendum No. 2, and imposing certain specified conditions. On August 18, 2011, CCHS timely confirmed its acceptance of the Final Approval and associated conditions.

Work and Sampling Plans

Pursuant to the conditions in the Final Approval, CCHS timely submitted to the U.S. EPA certain work methods and post-cleanup sampling procedures, including in the following documents:

1. “Contractor Work Plan, Addendum No. 2-Proposed Final Risk Based Risk Reduction Plan, Polychlorinated Biphenyl (PCB)-Contaminated Building Materials, 1970s Building, Central Catholic High School, 300 Hampshire Street, Lawrence, Massachusetts” (Work Plan) dated July 21, 2011;
2. “Indoor Air and Surface Sampling Plan, Addendum No. 2-Proposed Final Risk Based Risk Reduction Plan, Polychlorinated Biphenyl (PCB)-Contaminated Building Materials, 1970s Building, Central Catholic High School, 300 Hampshire Street, Lawrence, Massachusetts” dated July 21, 2011; and
3. “Updated Indoor Air and Surface Sampling Plan, Addendum No. 2-Proposed Final Risk Based Risk Reduction Plan, Polychlorinated Biphenyl (PCB)-Contaminated Building Materials, 1970s Building, Central Catholic High School, 300 Hampshire Street, Lawrence, Massachusetts” dated August 12, 2011.

Copies of these three documents are provided as Attachment B.

SUMMARY OF COMPLETED REMOVAL AND RISK REDUCTION ACTIVITIES

Between August 1 and 12, 2011, and pursuant to the Risk-Based Approval, CCHS and Ransom oversaw the following abatement activities which were completed by Mill City Environmental (MCE) of Lowell, Massachusetts:

1. Removal of PCB-contaminated caulking present between the concrete panel joints in the north and south gallery hallways on the third floor of the 1970s Building;
2. Further encapsulation of areas where PCB-contaminated caulking was removed from interior and accessible exterior concrete surfaces (window openings/sills, door frames, concrete panel joints, air exhaust vents), using two dissimilarly colored epoxy coatings; and

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3. Detailed cleaning of surfaces/materials in the library (Room 305) to abate potentially PCB-contaminated dust.

A photograph log documenting this round of response actions is provided as Attachment C.

Caulking Abatement

Between August 1 and 12, 2011, Ransom oversaw the removal and replacement of PCB-contaminated caulking from the joints between certain concrete building panels located on exterior hallways on the third floor of the 1970s Building. After removal of the contaminated caulking, the concrete surround was encapsulated prior to application of new caulking. Details regarding the encapsulation methods are presented later in this document.

Prior to removing the caulking from the joints between the concrete building panels on the third floor of the 1970s Building, MCE cleared the area beneath each joint of obstructions and placed a double layer of plastic sheeting on the ground surface to collect abatement debris. The caulking was removed using putty knives and electric chisels. Ransom advised MCE personnel to use care when scraping to minimize the damage to the concrete panels. Removal of residual caulking from the surface of the concrete surround was performed using a Simple Green solution and/or a citrus degreaser and a scrub pad. Removed caulking and other PCB Remediation Waste was placed in a plastic trash bag and, thereafter, placed into a DOT-approved 5-gallon container and stored inside the 1970s Building for off-site disposal. The container were labeled as required by CFR §761.40.

Library Cleaning

A decontamination enclosure was installed at the main entrance of the library. Other access points to the library were sealed shut. The open end of the decontamination enclosure was positioned to allow MCE employees to enter the enclosure from the 1970s Building. The decontamination enclosure provided the sole point of access and egress for the area to be cleaned. In addition, the opening of the decontamination enclosure was the sole air-intake source while the area is placed under negative pressure.

Visible surfaces and objects were vacuum-cleaned in place using portable HEPA filter-equipped vacuum equipment. Once visible surfaces were vacuumed, movable objects (books, computers, furniture, etc.) were moved to allow for vacuuming of previously hidden surfaces and objects. Following the cleaning, the moved objects were replaced. Typical surfaces and objects cleaned by this method included the carpeted floor, concrete walls and sills, work surfaces, shelves, and books.

Following the completion of the cleaning of movable objects, the carpeted floor in the library was shampooed using commercial cleaning equipment.

Consistent with porous surfaces, non-porous surfaces and objects were vacuum-cleaned in place using a portable HEPA filter-equipped vacuum. Once visible surfaces were vacuumed, the surfaces were cleaned using a 5-percent solution of Simple Green detergent. These surfaces include metal beams and duct work.

Encapsulation

Following the removal of caulking from the concrete panel joints, encapsulation of the concrete surfaces (window openings/sills, door frames, and concrete panel joints) in the 1970s Building was completed to mitigate potential future exposures to PCBs which may still present in the concrete. Encapsulation was completed at the following locations:

1. Interior window sills and vertical window casings;
2. Interior concrete panel joints in the north and south gallery hallways of the third floor;
3. Exterior window casings and overhangs within reach (all ground-floor and first-floor windows are considered within reach); and
4. Interior and exterior doorway casings.

For the interior and exterior window sills (i.e., the bottom, horizontal surface), the entire exposed surface was encapsulated. For remaining surfaces, a 12-inch-wide strip was applied to the portion of the concrete surface previously in contact with the caulking.

The encapsulation of the concrete surfaces was performed utilizing the following Sika Corporation (Sika) products: Sikaflex Sealant/Adhesive Primer 260, Sikagard 62 Epoxy Coating, and Sikaflex-1a Polyurethane Elastomeric Sealant/Adhesive. The Sikagard 62 Epoxy Coating was provided in two colors, gray and tan.

Prior to application of the primer, Ransom confirmed that the concrete substrate was clean, dry, and free of old sealant, dust, laitance, grease, oils, curing compounds, and other debris to the greatest degree possible. The primer was applied to the concrete using a paint brush. At each location, the primer was allowed to dry for at least one hour before application of the epoxy coating. Once the primer dried, equal parts of Component A and Component B were mixed in a dry mixing pail for 3 minutes as specified by the manufacturer. The epoxy resin coating was then applied to the concrete and metal surface of the vent with paint brushes. According to Sika, application thickness is between 4 to 7 mils per coat. Once the epoxy cured, the sealant was applied following Sika's instructions.

REMEDATION WASTE MANAGEMENT

On December 5, 2011, one 5-gallon bucket containing PCB-contaminated caulking was picked up by MCE and shipped under a Uniform Hazardous Waste Manifest (006575015JJK) to the General Chemical Corporation facility in Framingham, Massachusetts, for off-site disposal. A copy of the manifest associated with this shipment is included as Attachment D. A Certificate of Disposal will be forwarded to the U.S. EPA under separate cover.

POST-ABATEMENT SAMPLING

Wipe Sampling

Wipe sampling of the epoxy-encapsulated surfaces (window openings/sills, door frames, building panel joints) and high contact surfaces (i.e., desktops, lecterns, etc.) was performed to confirm effectiveness of the abatement activities. The wipe samples were collected in accordance with the standard wipe test as defined by 40 CFR §761.123. A 100 cm² template was used to delineate the area of the surface to be sampled. Using a laboratory-provided gauze pad saturated with hexane, the sample area was wiped in both a vertical and a horizontal direction. The gauze pad was allowed to air-dry and the pad was placed in a laboratory-prepared container. The wipe samples were submitted under chain-of-custody to Alpha and analyzed for PCBs by U.S. EPA Method 8082, with a laboratory reporting limit of 1 µg/100 cm²; each sample will be prepared for analysis utilizing the standard Soxhlet extraction method.

Encapsulated Surfaces

Ransom collected 45 wipe samples from encapsulated surfaces throughout the 1970s Building as follows:

1. Ground floor: 6 locations;
2. First floor: 13 locations;
3. Second floor: 13 locations; and
4. Third floor: 13 locations.

Wipe sampling locations are provided on Figures 1 through 4. In addition, four blind duplicates were collected for quality control (QC) purposes.

High Contact Surfaces

Ransom collected 14 wipe samples from high-contact surfaces throughout the 1970s Building as follows:

1. Ground floor: 2 locations;
2. First floor: 4 locations;
3. Second floor: 4 locations; and
4. Third floor: 6 locations.

Wipe sampling locations are provided on Figures 1 through 4.

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As shown in Table 1, PCBs were not detected in the wipe samples collected from the epoxy-encapsulated surfaces at concentrations above the laboratory reporting limit of 0.5 µg/100 cm². As shown in Table 2, PCBs were not detected in the wipe samples collected from the high-contact surfaces at concentrations above the laboratory reporting limit of 0.5 µg/100 cm².

A copy of the laboratory chemical analysis data report associated with the wipe sampling is included on compact disc (CD) provide as Attachment E.

Indoor Air Sampling

Following the abatement activities, Ransom completed indoor air sampling between August 12 and September 9, 2011. Indoor air samples were collected from the following locations of the 1970s Building:

1. First-floor hallway;
2. Classroom 204;
3. Library, Room 305 (two samples);
4. Second-floor hallway; and
5. Gymnasium, Room G02.

The air sampling was performed using personal air sampling pumps equipped with low-volume polyurethane foam (PUF) cartridges. The pumps were set to pump at a rate of approximately 4 to 5 liters per minute, for approximately 5 hours. Each personal sampling pump was calibrated prior to use and the calibration checked at the completion of the air sampling. Based on the air sample flow rate and the duration of pumping, the specific volume of air pulled through each PUF cartridge was determined. The indoor air samples were submitted to Alpha and analyzed for PCB by U.S. EPA Method TO-10, *Determination of PCB Congeners in Ambient Air Using Low Volume Polyurethane Foam (PUF)*.

As shown in Table 3, several PCB homologs were detected in the five indoor air samples at total masses ranging from 91.5 to 585 ng/cartridge. Based on the volumes of air passed through each PUF cartridge, Ransom estimated the indoor air concentrations of PCBs. As shown in Table 4, PCBs were detected in the five indoor air samples at concentrations ranging from 72.8 to 374 ng/m³. Table 4 also includes the results of prior indoor air sampling events which were performed between December 2006 and September 2010.

A copy of the laboratory chemical analysis data report associated with the August and September 2011 indoor air sampling is included on the CD provided as Attachment E.

RISK CHARACTERIZATION

Wipe Samples

As shown in Tables 1 and 2, PCBs were not detected at concentrations above the laboratory reporting limit of $0.5 \mu\text{g}/100 \text{ cm}^2$ in the wipe samples collected from the encapsulated or high contact surfaces. As $1 \mu\text{g}/100 \text{ cm}^2$ was established as the concentration which determined the effectiveness of the risk-reduction activities, the risk-reduction activities have successfully reduced the risk of exposure to PCBs on surfaces.

Indoor Air Samples

As shown in Table 4, the 2011 indoor air concentrations of PCBs fell further **below** their corresponding public health risk-based screening levels, as published by the U.S. EPA. The concentrations of PCBs in indoor air in each area sampled were approximately one-half (50%) of the concentration detected during the previous round(s) of sampling.

Conclusion

Based on post-cleanup wipe and indoor air sampling, the abatement activities completed at the 1970s Building between July 2010 and August 2011 have successfully reduced the risk to exposure to the remaining PCB-contaminated building materials. Further immediate risk reduction measures are not warranted.

LONG-TERM MAINTENANCE AND MONITORING IMPLEMENTATION PLAN (MMIP)

On September 19, 2011, a draft Long-Term MMIP was timely transmitted to the U.S. EPA per a condition of the Final Approval. The draft Long-Term MMIP included provisions for annual visual inspections of encapsulated surfaces, ad-hoc wipe sampling and biennial indoor air sampling. As of the date of this document, the U.S. EPA has not provided comments on or its approval of the draft Long-Term MMIP.

BUILDING RESTRICTION

On October 27, 2011, a Draft Notice of Building Restriction was timely submitted to the U.S. EPA per a condition of the Final Approval, along with a cover letter asking that this particular condition be removed from the Final Approval for reasons enumerated therein. The Draft Notice outlines the restrictions to be placed on portions of the 1970s Building where encapsulated PCBs may still remain in building concrete. As of the date of this document, the U.S. EPA has not responded to the request to remove this condition or provided comments on or its approval of the Draft Notice.

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Should you have any questions regarding document, please do not hesitate to call.

Sincerely,

RANSOM CONSULTING, INC.



Timothy J. Snay, LSP, LEP
Vice President

HED/TJS:sh
Attachments

cc: Jeffrey Renton, Gilbert & Renton, LLC
John Ostrowski, CCHS

TABLE 1: SUMMARY OF WIPE SAMPLE PCB ANALYSIS RESULTS—ENCAPSULATED SURFACES
Final Completion Report, Submitted Pursuant to the PCB Risk-Based Approval Under 40 CFR §§ 761.61(c) and 761.79(h) of the U.S. EPA dated August 5, 2011
Central Catholic High School
300 Hampshire Street
Lawrence, Massachusetts

Building Level	Ground Floor								First Floor							U.S. EPA Cleanup Standard	
Sample Identification	RMG09-IDR-081711	RMG09-EWN-081711	RMG09-IWN-081711	RMG06-EIWN-081711	RMG06-NIWN-081711	BDUP1-BD-081711	RMG06-EDR-081711	RMG03-EWN-081711	RM112-IWN-081711	RM110-IWN-081711	RM109-SIWN-081711	RM109-EIWN-081711	RM107-IWN-081711	HSEF-IDR-083111	HSEH-IDR-081711		RM104-EIWN-081711
Sample Location	Rm G09 door surround interior	Rm G09 window exterior sill	Rm G09 window interior sill	Rm G06 east window interior sill	Rm G06 north window interior sill	(duplicate RMG06-NIWN)	Rm G06 door surround exterior	Rm G03 window exterior sill	Rm 112 window interior sill	Rm 110 window interior sill	Rm 109 south wind ow interior sill	Rm109 east windo w interior sill	Rm 107 window interior sill	Hampshire St entry, interior door surround, foyer	Hampshire St entry, interior door surround, facing hallway		Rm 104 east window interior sill
Sample Date	8/17/11	8/17/11	8/17/11	8/17/11	8/17/11	8/17/11	8/17/11	8/17/11	8/17/11	8/17/11	8/17/11	8/17/11	8/17/11	8/31/11	8/17/11		8/17/11
Polychlorinated Biphenyls (PCBs)	Concentrations in Micrograms per Wipe (µg/wipe)																
all Aroclors	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	1

Building Level	First Floor					Second Floor												U.S. EPA Cleanup Standard
Sample Identification	RM104-NIWN-081711	RM103-IWN-081711	RM101-IWN-081711	HLWY-SIWN-081711	BDUP3-BD-081711	RM211-IWN-081711	RM210-IWN-081711	RM209-IWN-081711	RM208-EIWN-081711	RM208-SIWN-081711	BDUP4-BD-081711	RM206-SIWN-081711	RM206-NIWN-081711	RM205-EIWN-083111	BDUP1-BD-083111	RM205-NIWN-083111	RM204-LIWN-081711	
Sample Location	Rm 104 west window interior sill	Rm 103 window interior sill	Rm 101 window interior sill	South hallway south window interior sill	(duplicate HLWY-SIWN)	Rm 211 window interior sill	Rm 210 window interior sill	Rm 209 window interior sill	Rm 208 east window interior sill	Rm 208 south window interior sill	(duplicate Rm 208-SIWN)	Rm 206 south window interior sill	Rm 206 north window interior sill	Rm 205 east window interior sill	(duplicate RM205-EIWN)	Rm 205 north window interior sill	Rm 204 window interior sill left side	
Sample Date	8/17/11	8/17/11	8/17/11	8/17/11	8/17/11	8/17/11	8/17/11	8/17/11	8/17/11	8/17/11	8/17/11	8/17/11	8/17/11	8/31/11	8/31/11	8/41/11	8/17/11	
Polychlorinated Biphenyls (PCBs)	Concentrations in µg/wipe																	1
all Aroclors	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	

- NOTES:**
1.

Samples were collected on the dates indicated by Ransom Consulting, Inc., and were analyzed by Alpha Analytical, Inc., of Westborough, Massachusetts
2.

BRL () = below reporting limit indicated in parentheses.

TABLE 1: SUMMARY OF WIPE SAMPLE PCB ANALYSIS RESULTS—ENCAPSULATED SURFACES
Final Completion Report, Submitted Pursuant to the PCB Risk-Based Approval Under 40 CFR §§ 761.61(c) and 761.79(h) of the U.S. EPA dated August 5, 2011
Central Catholic High School
300 Hampshire Street
Lawrence, Massachusetts

Building Level	Second Floor			Third Floor												U.S. EPA Cleanup Standard	
Sample Identification	RM204-RIWN-081711	RM203-IWN-081711	RM202-IWN-081711	RM308-IWN-083111	RM307-IWN-083111	SGH-WWN-083111	SGH-WALL-083111	RM306-IWN-083111	RM305-SWN-081711	RM305-CWN-081711	RM305-NWN-081711	RM304-IWN-083111	NGH-WWN-081711	NGH-WALL-081711	RM303-IWN-081711		RM302-IWN-081711
Sample Location	Rm 204 window interior sill right side	Rm 203 window interior sill	Rm 202 window interior sill	Rm 308 window interior sill	Rm 307 window interior sill	South gallery west window bottom sill	South gallery wall	Rm 306 window interior sill	Library south window interior sill	Library central window bottom sill	Library north window interior sill	Rm 304 window interior sill	North gallery west window side	North gallery wall	Rm 303 window interior sill		Rm 302 window interior sill
Sample Date	8/17/11	8/17/11	8/17/11	8/31/11	8/31/11	8/31/11	8/31/11	8/31/11	8/17/11	8/17/11	8/17/11	8/31/11	8/17/11	8/17/11	8/17/11		8/17/11
Polychlorinated Biphenyls (PCBs)	Concentrations in µg/wipe																
all Aroclors	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	1

- NOTES:**
- Samples were collected on the dates indicated by Ransom Consulting, Inc., and were analyzed by Alpha Analytical, Inc., of Westborough, Massachusetts
 - BRL () = below reporting limit indicated in parentheses.

TABLE 2: SUMMARY OF WIPE SAMPLE PCB ANALYSIS RESULTS—HIGH-CONTACT SURFACES
Final Completion Report, Submitted Pursuant to the PCB Risk-Based Approval Under 40 CFR §§ 761.61(c) and 761.79(h) of the U.S. EPA dated August 5, 2011
Central Catholic High School
300 Hampshire Street
Lawrence, Massachusetts

Building Level	Ground Floor		First Floor					Second Floor				Third Floor					U.S. EPA Cleanup Standard
Sample Identification	RMG09- DSK- 081711	RMG06- DSK- 081711	RM109- TBL- 081711	BDUP2- BD- 081711	RM103- DSK- 081711	RM101- DSK- 081711	L1075- DR- 081711	RM210- TDSK- 081711	RM204- DSK- 083111	RM203- DSK- 081711	BDUP5- BD- 081711	RM308- TDSK- 083111	RM305- CDSK- 081711	BDUP6- BD- 081711	RM305- SDSK- 081711	RM303- DSK- 081711	
Sample Locations	Rm G09 desk	Rm G06 desk	Faculty lounge table	(duplicate RM109- TBL)	Rm 103 desk	Rm 101 desk	Locker door	Rm 210 teacher’s desk	Rm 204 desk	Rm 203 desk	(duplicate RM203- DSK)	Rm 308 teacher’s desk	Library computer desk	(duplicate RM305- CDSK)	Library student desk	Rm 103 desk	
Sample Date	8/17/11	8/17/11	8/17/11	8/17/11	8/17/11	8/17/11	8/17/11	8/17/11	8/31/11	8/17/11	8/17/11	8/31/11	8/17/11	8/17/11	8/17/11	8/17/11	
Polychlorinated Biphenyls (PCBs)	Concentrations in Micrograms per Wipe (µg/wipe)																
all Aroclors	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	BRL (0.5)	1

- NOTES:**
- Samples were collected on the dates indicated by Ransom Consulting, Inc., and were analyzed by Alpha Analytical, Inc., of Westborough, Massachusetts
 - BRL () = below reporting limit indicated in parentheses.

TABLE 3: SUMMARY OF PCB HOMOLOG CONCENTRATIONS—INDOOR AND OUTDOOR AIR SAMPLES
Final Completion Report, Submitted Pursuant to the PCB Risk-Based Approval Under 40 CFR §§ 761.61(c) and 761.79(h) of the U.S. EPA dated August 5, 2011
Central Catholic High School
300 Hampshire Street
Lawrence, Massachusetts

Building	1970s Building											
Sample Identification	IA1-HALL-122806	IA1-HALL-072408	IA1-HALL-111408	IA1-HALL-081109	1HALL-AIR-082610	IA1-FFH-090911	IA2-R204-122806	IA2-R204-072408	IA2-R204-111408	IA2-R204-081109	R204-AIR-082610	IA1-RM204-090911
Sample Location	First floor hallway						Room 204					
Sample Date	12/28/06	7/24/08	11/14/08	8/11/09	8/26/10	9/9/11	12/28/06	7/24/08	11/14/08	8/11/09	8/26/10	9/9/11
Polychlorinated Biphenyl (PCB) Homologs and Congeners	Concentrations in Nanograms per Cartridge (ng/cart)											
monochlorobiphenyls	BRL (0.5)	1.06	2.2	0.92	3.08	BRL (5)	2.5	4.92	3.29	5.37	4.15	BRL (5)
dichlorobiphenyls	1.8	18.2	22.4	10.9	44.2	6.8 B	11	42.5	27.9	68.8	45.5	14.2 B
trichlorobiphenyls	5.2	28.2	31.1	18	59.5	19.5 B	8.6	36.7	27	87.3	50.3	23.9 B
tetrachlorobiphenyls	25	126	159	92.3	53.2	49.9 B	11	48.7	34.9	156	85.6	42.1 B
pentachlorobiphenyls	36	208	223	143	58	58.2 B	11	67.8	46.7	188	101	50.8 B
hexachlorobiphenyls	7.7	45.6	54.6	35.8	13.5	2.83 J B	1.1	18.8	9.04	60.2	35.9	15.9 B
heptachlorobiphenyls	0.58	3.4	9.16	4.61	BRL (2.5)	BRL (5)	BRL (0.5)	2.62	BRL (1)	13.1	5	BRL (5)
octachlorobiphenyls	BRL (0.5)	BRL (1)	BRL (1)	BRL (0.5)	BRL (2.5)	BRL (5)	BRL (0.5)	BRL (1)	BRL (1)	0.93	BRL (2.5)	BRL (5)
nonachlorobiphenyls	BRL (0.5)	BRL (1)	BRL (1)	BRL (0.5)	BRL (2.5)	BRL (5)	BRL (0.5)	BRL (1)	BRL (1)	BRL (0.5)	BRL (2.5)	BRL (5)
decachlorobiphenyls	BRL (0.5)	BRL (1)	BRL (1)	BRL (0.5)	BRL (2.5)	BRL (5)	BRL (0.5)	BRL (1)	BRL (1)	BRL (0.5)	BRL (2.5)	BRL (5)
Total PCBs	76	431	502	305	231	137 B	45	222	150	580	327	147 B

NOTES:

1. Samples were collected on the dates indicated by Ransom Consulting, Inc., and were analyzed by Alpha Analytical, Inc., of Westborough, Massachusetts.
2. BRL () = below reporting limit indicated in parentheses; J = estimated concentration; B = compound detected in method blank.
3. See laboratory reports case narrative for quality assurance information.

TABLE 3: SUMMARY OF PCB HOMOLOG CONCENTRATIONS—INDOOR AND OUTDOOR AIR SAMPLES
Final Completion Report, Submitted Pursuant to the PCB Risk-Based Approval Under 40 CFR §§ 761.61(c) and 761.79(h) of the U.S. EPA dated August 5, 2011
Central Catholic High School
300 Hampshire Street
Lawrence, Massachusetts

Building	1970s Building																South Addition
Sample Identification	IA3-R305-122806	IA3-R305-072408	IA3-R305-111408	IA3-R305-081109	R305-AIR-082610	R305A-AIR-091610	R305B-AIR-091610	R305C-AIR-091610	IA1-R305-081211	IA2-R305-081211	2HALL-AIR-082610	IA1-SFH-090911	G02-AIR-082610	IA1-GYM-090911	ROOF-AIR-082610	IA4-BLAN-072408	IA4-CAFÉ-122806
Sample Location	Library, Room 305										Second floor hallway		First floor gymnasium		Roof	Trip Blank	First floor cafeteria
Sample Date	12/28/06	7/24/08	11/14/08	8/11/09	7/24/08	9/16/10	9/16/10	9/16/10	8/12/11	8/12/11	8/26/10	9/9/11	8/26/10	9/9/11	8/26/10	7/24/08	12/28/06
Polychlorinated Biphenyl (PCB) Homologs and Congeners	Concentrations in ng/cart																
monochlorobiphenyls	5.8	13	8.02	17.2	17.4	7.65	10.9	9.1	8.11	10.4	5.1	BRL (5)	3.15	BRL (5)	BRL (2.5)	BRL (1)	BRL (0.5)
dichlorobiphenyls	57	214	141	312	342	164	225	189	160	202	71.8	7.62 B	28.6	17.5 B	BRL (2.5)	3.18	BRL (0.5)
trichlorobiphenyls	46	228	176	390	429	227	290	241	230	266	90.3	19.9 B	36.5	25 B	BRL (2.5)	1.54	0.51
tetrachlorobiphenyls	16	58.2	60.7	91.2	150	62.8	57.6	49.9	38.8	73	92.2	63.4 B	55.4	28.1 B	BRL (2.5)	BRL (1)	1.0
pentachlorobiphenyls	13	37.7	44.8	44.7	135	21.7	16.6	16.8	12	33.6	85.1	76.7 B	61.3	20.9 B	BRL (2.5)	BRL (1)	BRL (0.5)
hexachlorobiphenyls	2.6	6	8.25	10.5	59.5	6	2.55	BRL (2.5)	BRL (5)	BRL (5)	21.3	11.7 B	17.7	BRL (5)	BRL (2.5)	BRL (1)	BRL (0.5)
heptachlorobiphenyls	BRL (0.5)	BRL (1)	BRL (1)	1.86	14.7	BRL (2.5)	BRL (2.5)	BRL (2.5)	BRL (5)	BRL (5)	BRL (2.5)	BRL (5)	BRL (2.5)	BRL (5)	BRL (2.5)	BRL (1)	BRL (0.5)
octachlorobiphenyls	BRL (0.5)	BRL (1)	BRL (1)	BRL (0.5)	BRL (2.5)	BRL (2.5)	BRL (2.5)	BRL (2.5)	BRL (5)	BRL (5)	BRL (2.5)	BRL (5)	BRL (2.5)	BRL (5)	BRL (2.5)	BRL (1)	BRL (0.5)
nonachlorobiphenyls	BRL (0.5)	BRL (1)	BRL (1)	BRL (0.5)	BRL (2.5)	BRL (2.5)	BRL (2.5)	BRL (2.5)	BRL (5)	BRL (5)	BRL (2.5)	BRL (5)	BRL (2.5)	BRL (5)	BRL (2.5)	BRL (1)	BRL (0.5)
decachlorobiphenyls	BRL (0.5)	BRL (1)	BRL (1)	BRL (0.5)	BRL (2.5)	BRL (2.5)	BRL (2.5)	BRL (2.5)	BRL (5)	BRL (5)	BRL (2.5)	BRL (5)	BRL (2.5)	BRL (5)	BRL (2.5)	BRL (1)	BRL (0.5)
Total PCBs	140	558	439	867	1,150	489	603	506	448	585	366	179 B	202	91.5 B	BRL	4.72	1.5

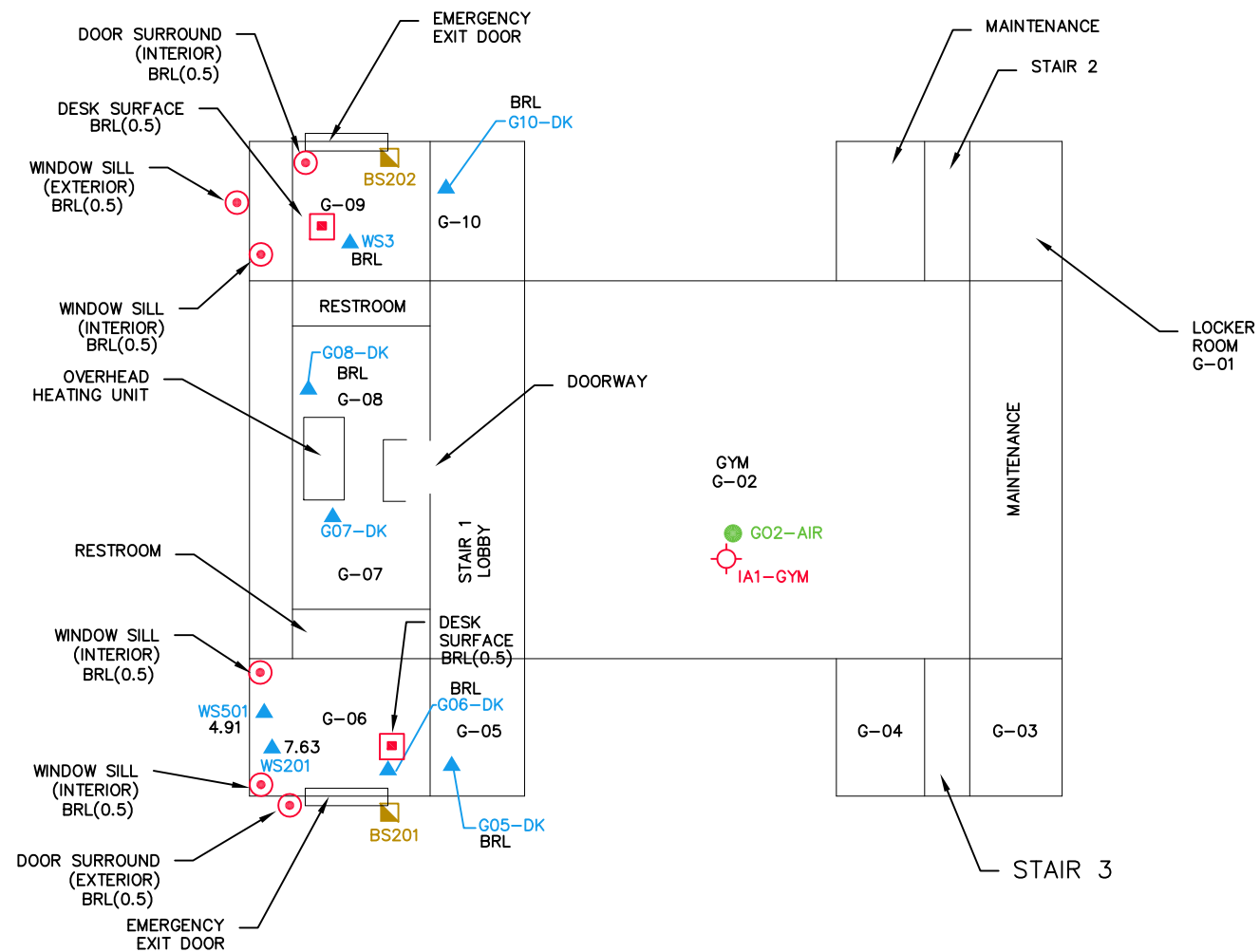
- NOTES:**
- 1. Samples were collected on the dates indicated by Ransom Consulting, Inc., and were analyzed by Alpha Analytical, Inc., of Westborough, Massachusetts.
 - 2. BRL () = below reporting limit indicated in parentheses; J = estimated concentration; B = compound detected in method blank.
 - 3. See laboratory reports case narrative for quality assurance information.

TABLE 4: SUMMARY OF PCB CONCENTRATIONS—INDOOR AIR SAMPLES
Final Completion Report, Submitted Pursuant to the PCB Risk-Based Approval Under 40 CFR §§ 761.61(c) and 761.79(h) of the U.S. EPA dated August 5, 2011
Central Catholic High School
300 Hampshire Street
Lawrence, Massachusetts

Sample Location	Mass of PCBs on PUF Cartridge (ng/cartridge)								PCB Concentration in Air (ng/m3)							
Sample Date	12/28/06	7/24/08	11/14/08	8/11/09	8/26/10	9/16/10	8/12/11	9/9/11	12/28/06	7/24/08	11/14/08	8/11/09	8/26/10	9/16/10	8/12/11	9/9/11
First floor hallway, 1970s building	76	431	502	305	231	NS	NS	137 B	61	346	407	250	210	NS	NS	110
Classroom 204, 1970s building	45	222	150	580	327	NS	NS	147 B	36	181	124	458	293	NS	NS	100
Library Room 305, 1970s building	140	558	439	857	1,150	489 603 506	448 585	NS	114	459	364	701	1,038	415 487 429	287 374	NS
Second floor hallway, 1970s building	NS	NS	NS	NS	366	NS	NS	179 B	NS	NS	NS	NS	332	NS	NS	145
Gym, Room G02, 1970s building	NS	NS	NS	NS	202	NS	NS	91.5 B	NS	NS	NS	NS	180	NS	NS	72.8
Cafeteria, South Addition	1.5	NS	NS	NS	NS	NS	NS	NS	1	NS	NS	NS	NS	NS	NS	NS
Outdoor Air (collected from 1970s building roof)	NS	NS	NS	NS	BRL (2.5)	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS
									U.S. EPA-Published Public Health Levels							
Age 15 to <19 years									600							
Age 19+ (adult)									450							

NOTES:

- 1. Samples were collected on the dates indicated by Ransom Consulting, Inc., and were analyzed by Alpha Analytical, Inc., of Westborough, Massachusetts.
- 2. ng/m³ = nanograms per cubic meter.
- 3. U.S. EPA-Published Public Health Levels taken from Public Health Levels for PCBs in Indoor School Air issued by the U.S. Environmental Protection Agency in September 2009.
- 4. See laboratory reports case narrative for quality assurance information.
- 5. NS = not sampled; ND = not detected; B = detected in method blank.



LEGEND:

- ⊙ POST-ENCAPSULATION WIPE SAMPLE
- POST-ABATEMENT WIPE SAMPLE (HIGH CONTACT SURFACE)
- ⊗ INDOOR AIR SAMPLE
- ▲ WS501 4.91
WIPE SAMPLE WITH PCB CONCENTRATION IN MICROGRAMS/100CM²
- G02-AIR
INDOOR AIR SAMPLE
- BS101
BULK SAMPLE
- BRL BELOW LABORATORY REPORTING LIMIT

NOTES:

1. SITE PLAN BASED ON MEASUREMENTS AND OBSERVATIONS MADE BY RANSOM CONSULTING, INC. IN DECEMBER 2006, AUGUST & NOVEMBER 2007, JULY 2008 AND SEPTEMBER 2009.
2. SOME FEATURES ARE APPROXIMATE IN LOCATION AND SCALE.



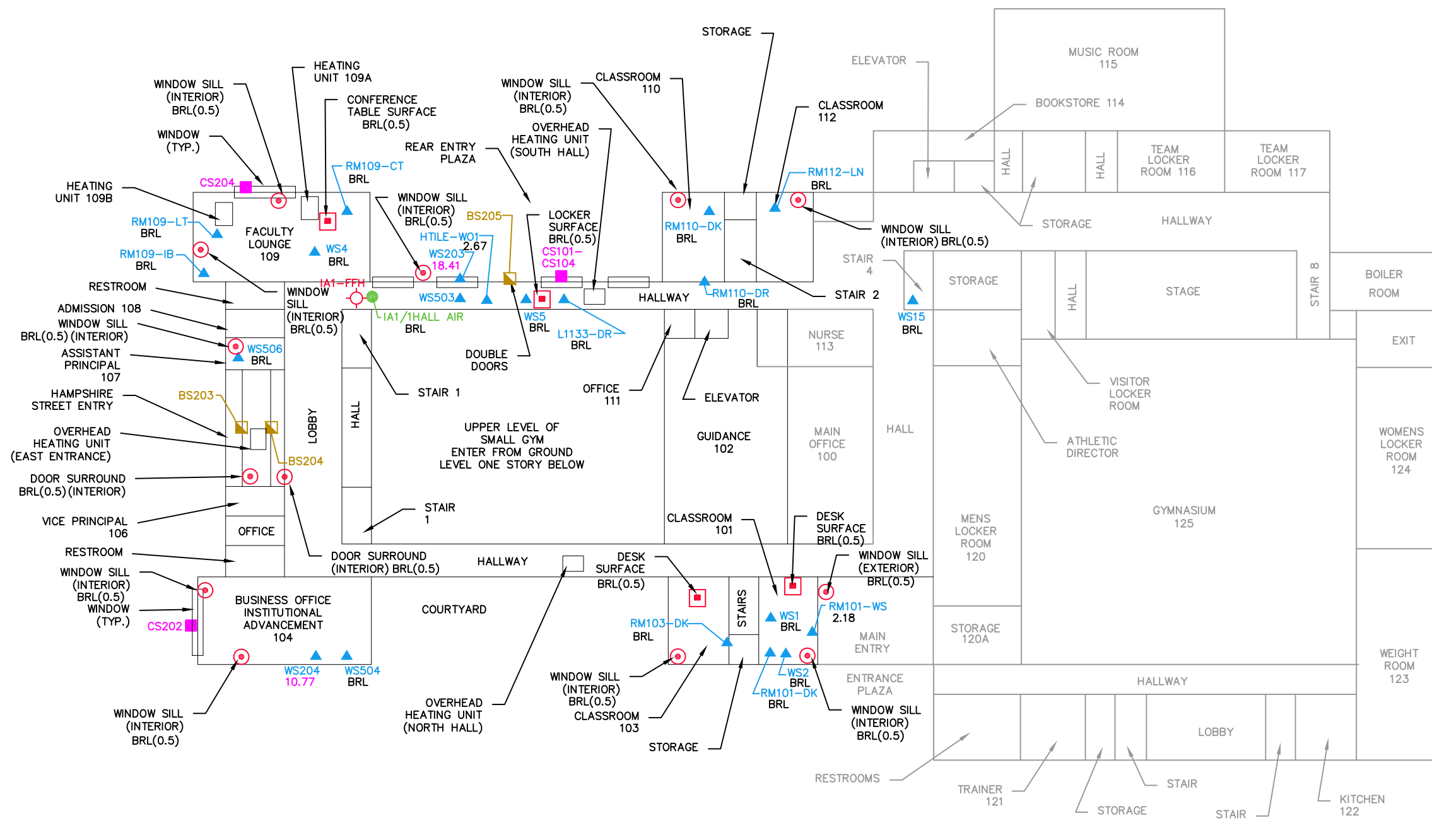
Consulting, Inc.

PREPARED FOR:
CENTRAL CATHOLIC
HIGH SCHOOL
300 HAMPSHIRE STREET
LAWRENCE, MASSACHUSETTS

SITE: CENTRAL CATHOLIC
HIGH SCHOOL
300 HAMPSHIRE STREET
LAWRENCE, MASSACHUSETTS


POST-ABATEMENT SAMPLING GROUND FLOOR

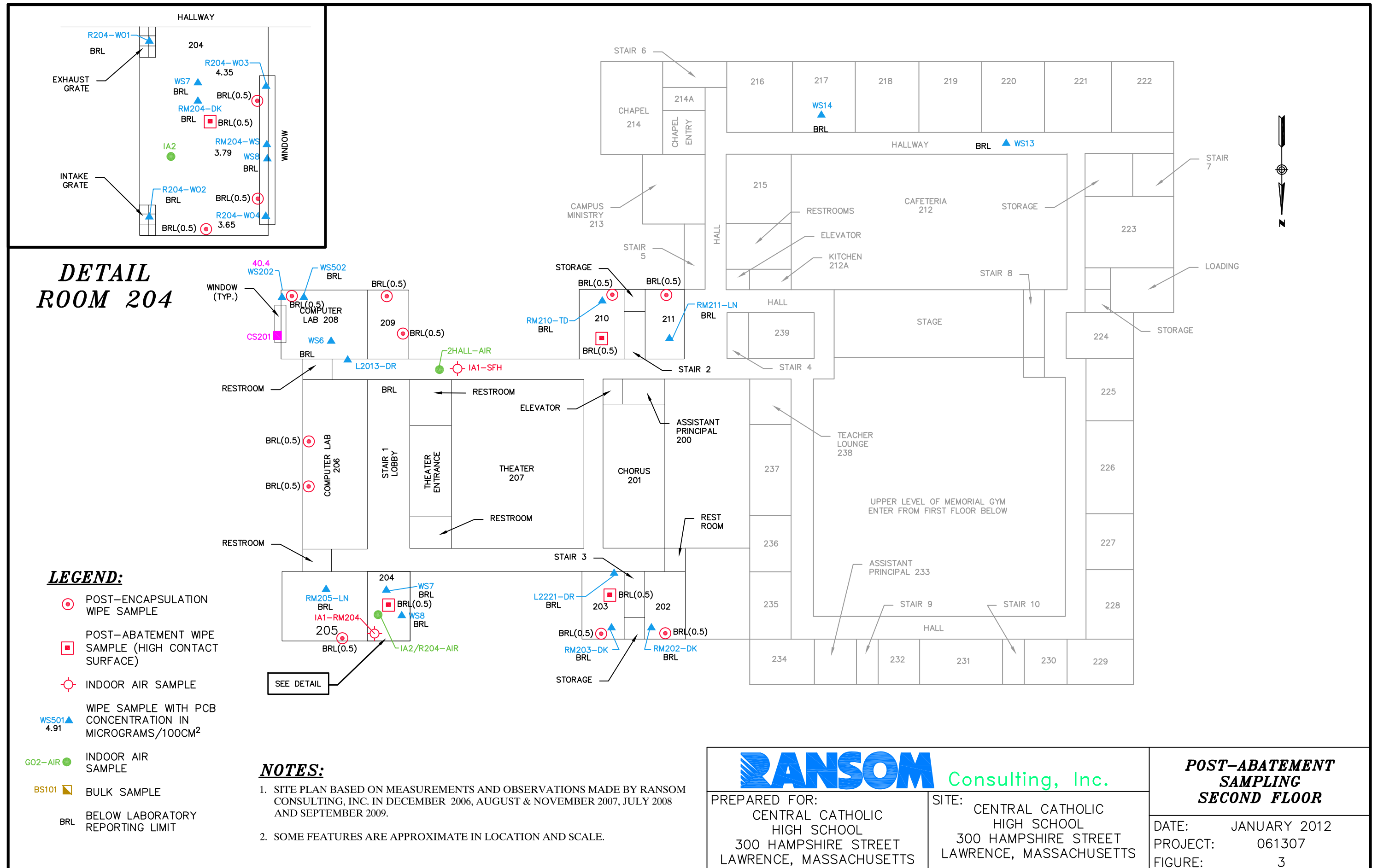
DATE: JANUARY 2012
PROJECT: 061307
FIGURE: 1

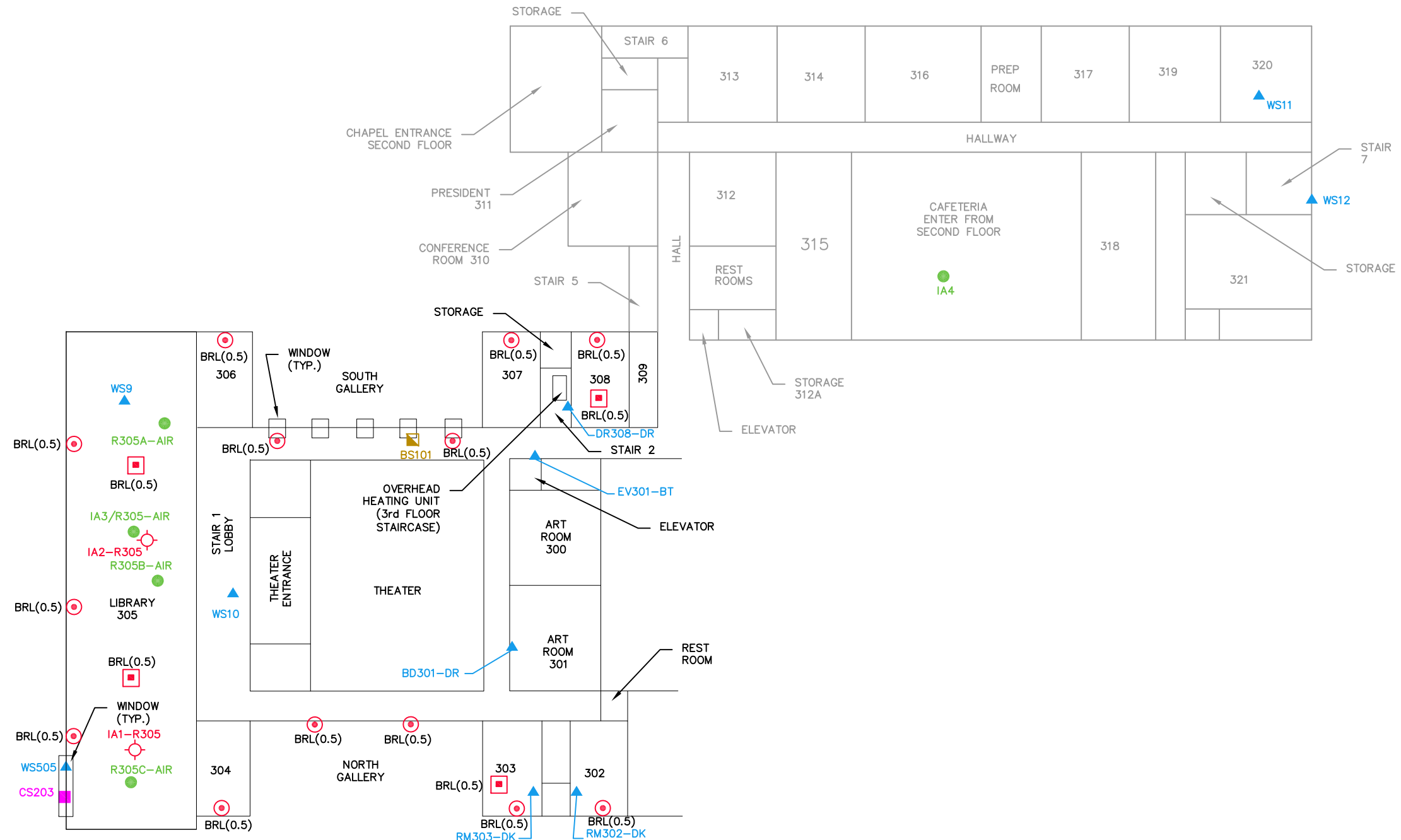


- LEGEND:**
- POST-ENCAPSULATION WIPE SAMPLE
 - POST-ABATEMENT WIPE SAMPLE (HIGH CONTACT SURFACE)
 - INDOOR AIR SAMPLE
 - ▲ WIPE SAMPLE WITH PCB CONCENTRATION IN MICROGRAMS/100CM²
 - INDOOR AIR SAMPLE
 - BULK SAMPLE
 - BRL BELOW LABORATORY REPORTING LIMIT

- NOTES:**
- SITE PLAN BASED ON MEASUREMENTS AND OBSERVATIONS MADE BY RANSOM CONSULTING, INC. IN DECEMBER 2006, AUGUST & NOVEMBER 2007, JULY 2008 AND SEPTEMBER 2009.
 - SOME FEATURES ARE APPROXIMATE IN LOCATION AND SCALE.

<div>  <div>Consulting, Inc.</div> </div>		POST-ABATEMENT SAMPLING FIRST FLOOR	
PREPARED FOR: CENTRAL CATHOLIC HIGH SCHOOL 300 HAMPSHIRE STREET LAWRENCE, MASSACHUSETTS		SITE: CENTRAL CATHOLIC HIGH SCHOOL 300 HAMPSHIRE STREET LAWRENCE, MASSACHUSETTS	
		DATE:	JANUARY 2012
		PROJECT:	061307
		FIGURE:	2





- LEGEND:**
- POST-ENCAPSULATION WIPE SAMPLE
 - POST-ABATEMENT WIPE SAMPLE (HIGH CONTACT SURFACE)
 - ⊗ INDOOR AIR SAMPLE
 - ▲ WS501 4.91 WIPE SAMPLE WITH PCB CONCENTRATION IN MICROGRAMS/100CM²
 - G02-AIR INDOOR AIR SAMPLE
 - BS101 BULK SAMPLE
 - BRL BELOW LABORATORY REPORTING LIMIT

- NOTES:**
1. SITE PLAN BASED ON MEASUREMENTS AND OBSERVATIONS MADE BY RANSOM CONSULTING, INC. IN DECEMBER 2006, AUGUST & NOVEMBER 2007, JULY 2008 AND SEPTEMBER 2009.
 2. SOME FEATURES ARE APPROXIMATE IN LOCATION AND SCALE.

RANSOM Consulting, Inc.		POST ABATEMENT SAMPLING THIRD FLOOR	
PREPARED FOR: CENTRAL CATHOLIC HIGH SCHOOL 300 HAMPSHIRE STREET LAWRENCE, MASSACHUSETTS		SITE: CENTRAL CATHOLIC HIGH SCHOOL 300 HAMPSHIRE STREET LAWRENCE, MASSACHUSETTS	
		DATE:	JANUARY 2012
		PROJECT:	061307
		FIGURE:	4

ATTACHMENT A

Copies U.S. EPA Approvals

Final Completion Report, Submitted Pursuant to the PCB Risk-Based Approval Under 40 CFR §§
761.61(c) and 761.79(h) of the U.S. EPA dated August 5, 2011

Central Catholic High School
300 Hampshire Street
Lawrence, Massachusetts



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
5 POST OFFICE SQUARE, SUITE 100, BOSTON, MASSACHUSETTS 02109-3912

Certified Mail – Return Receipt Requested

JUL 6 2010

Jeffrey Renton, Partner
Gilbert & Renton, LLC
344 North Main Street
Andover, Massachusetts 01810

Re: Central Catholic High School Proposed PCB Risk-Based Plan, June 2, 2010
PCB Cleanup and Disposal Approval under § 761.61(a) and § 761.79(h)

Dear Mr. Renton:

This is in response to the Notification¹ by Central Catholic High School (CCHS) for approval of a risk-based plan to address PCB-contamination in the 1970s Building located at 300 Hampshire Street, Lawrence, Massachusetts (the Site). The Site contains PCB-contaminated materials that exceed the allowable PCB levels under 40 CFR § 761.20(a), § 761.61, and § 761.62. Specifically, PCBs have been found in caulk, in sound-damping insulation located in heater units, and in building substrates (e.g. window sills).

CCHS has proposed a plan under the PCB risk-based disposal option at 40 CFR § 761.61(c) that includes the following major activities:

- to conduct removal of remaining PCB caulk and the sound-damping insulation;
- to decontaminate or dispose of the heating units if they cannot be cleaned; and,
- to conduct long-term maintenance and monitoring of the currently encapsulated surfaces and indoor air.

Based on its review of the Notification and given the PCB concentrations that have been identified at the Site, EPA is not approving your Notification as written for the following reasons:

- EPA does not agree that CCHS has adequately justified its proposed plan to encapsulate PCB-contaminated *porous surfaces*. CCHS must consider cleanup and disposal alternatives and support why it is unable to meet the PCB cleanup standards specified under 40 CFR § 761.61(a) as part of a risk-based request under § 761.61(c);

¹ Information was submitted by Ransom Environmental Consultants, Inc. on behalf of CHS to support a risk-based disposal approach for PCB remediation waste under 40 CFR § 761.61(c). Information was submitted dated June 2, 2010 and will be referred to as the "Notification."

- Previous efforts were undertaken to remove PCB caulk, which did not include encapsulation of the building substrates prior to caulk replacement (with the exception of the window sills). As a result, it is likely that the new caulk has been re-contaminated from the PCBs remaining in the building substrates; and,
- PCB concentrations at greater than ($>$) $1 \mu\text{g}/100 \text{ cm}^2$ were found on previously encapsulated surfaces. During EPA's Site visit in April 2010, EPA observed that the single layer of coating did not appear to completely cover the surface, which may be contributing to the PCB concentrations identified in the surface wipes from these surfaces. A single coat may not be sufficient as an encapsulation method for the high PCB concentrations that have been identified in the building substrate.

With that said, EPA does agree that CCHS should undertake its proposed plan to remove the PCB caulk and PCB sound-damping insulation located in the heating units this summer. Average PCB concentrations are present in indoor air at levels that are just below the unacceptable risk-based air standards that have been used at other schools in Region 1. Thus, EPA is approving that portion of the Notification that addresses removal of caulk and the sound-damping insulation and that addresses either decontamination (following removal of the insulation) and/or disposal of the heater units if they cannot be decontaminated.

CCHS may proceed with its project in accordance with 40 CFR § 761.61(a); § 761.79(h); its Notification; and, this Approval, subject to the conditions of Attachment 1. While this Approval **does not** address PCB cleanup of the *porous surfaces* following caulk removal, EPA is recommending that CCHS consider encapsulation of the *porous surfaces* prior to installation of new caulk to lessen the potential for contamination of the newly installed caulk.

Please be aware that EPA is requiring that CCHS conduct air sampling and surface wipe sampling prior to the opening of school for the new school year (see Attachment 1, Condition 13). EPA is reserving its rights to require additional mitigation measures should indoor air concentrations or surface wipe sample results indicate that PCBs are present at concentrations which could result in a risk to Site users.

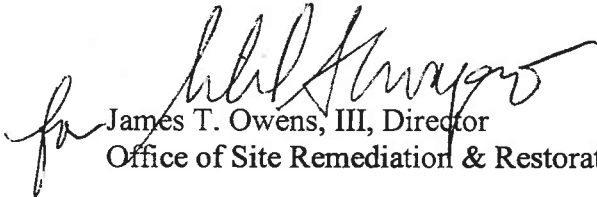
Please note that this Approval only addresses the PCB contamination as identified above, specifically removal of PCB caulk and PCB sound-damping insulation and decontamination of heater units. PCBs remain in the building substrates at concentrations which exceed the PCB unrestricted use standard of 1 ppm. Accordingly, CCHS will be required to submit a plan for the cleanup and disposal of these PCB-contaminated materials accordance with 40 CFR § 761.61. (See Attachment 1, Condition 1).

Questions and correspondence regarding this Approval should be directed to:

Kimberly N. Tisa, PCB Coordinator (OSRR07-2)
United States Environmental Protection Agency
5 Post Office Square, Suite 100
Boston, Massachusetts 02109-3912
Telephone: (617) 918-1527
Facsimile: (617) 918-0527

EPA shall not consider this project complete until it has received all submittals required under this Approval. Please be aware that upon EPA receipt and review of the submittals, EPA may request any additional information necessary to establish that the work has been completed in accordance with 40 CFR Part 761, the Notification, and this Approval.

Sincerely,


James T. Owens, III, Director
Office of Site Remediation & Restoration

cc MassDEP, NERO
T. Snay, Ransom
Lawrence DOH
File

Attachment 1

ATTACHMENT 1

**PCB CLEANUP AND DISPOSAL APPROVAL CONDITIONS
CENTRAL CATHOLIC HIGH SCHOOL 1970s BUILDING
300 HAMPSHIRE STREET ("the Site")
LAWRENCE, MASSACHUSETTS**

GENERAL CONDITIONS

1. This Approval is granted under the authority of Section 6(e) of the Toxic Substances Control Act (TSCA), 15 U.S.C. §2605(e), and the PCB regulations at 40 CFR Part 761, and applies solely to the *PCB bulk product waste* and the *PCB remediation waste* located at the Site and identified in the Notification, and is limited to the removal of PCB caulk and PCB sound-damping insulation and decontamination and/or disposal of the heater units located in the heating units in the 1970s building.
 - a. This Approval does not address PCB-contaminated building substrates (e.g. window sills, concrete walls, door and window frames, etc.) or Site soils.
 - b. Central Catholic High School (CCHS) shall be required to remove and dispose of the PCB-contaminated building substrates and soils in accordance with 40 CFR § 761.61(a) or (c). For a risk-based disposal under 40 CFR § 761.61(c), the evaluation of cleanup alternatives must be considered. CCHS must submit any information necessary to justify why it is not feasible to clean up the PCBs to the standards specified in 40 CFR § 761.61(a) and that leaving PCBs in-place will not pose an unreasonable risk of injury to Site users.
2. CCHS shall conduct on-site activities in accordance with the conditions of this Approval and with the Notification.
3. In the event that the cleanup plan described in the Notification differs from the conditions specified in this Approval, the conditions of this Approval shall govern.
4. The terms and abbreviations used herein shall have the meanings as defined in 40 CFR § 761.3 unless otherwise defined within this Approval.
5. CCHS must comply with all applicable federal, state and local regulations in the storage, handling, and disposal of all PCB wastes, including PCBs, PCB Items and decontamination wastes generated under this Approval. In the event of a new spill during response actions, CCHS shall contact EPA within 24 hours for direction on PCB cleanup and sampling requirements.

6. CCHS is responsible for the actions of all officers, employees, agents, contractors, subcontractors, and others who are involved in activities conducted under this Approval. If at any time CCHS has or receives information indicating that CCHS or any other person has failed, or may have failed, to comply with any provision of this Approval, it must report the information to EPA in writing within 24 hours of having or receiving the information.
7. This Approval does not constitute a determination by EPA that the transporters or disposal facilities selected by CCHS are authorized to conduct the activities set forth in the Notification. CCHS is responsible for ensuring that its selected transporters and disposal facilities are authorized to conduct these activities in accordance with all applicable federal, state and local statutes and regulations.
8. This Approval does not: 1) waive or compromise EPA's enforcement and regulatory authority; 2) release CCHS from compliance with any applicable requirements of federal, state or local law; or 3) release CCHS from liability for, or otherwise resolve, any violations of federal, state or local law.

NOTIFICATION AND CERTIFICATION CONDITIONS

9. This Approval may be revoked if the EPA does not receive written notification from CCHS of its acceptance of the conditions of this Approval within 10 business days of receipt.
10. CCHS shall submit the following information for EPA review and/or approval:
 - a. a certification signed by its selected contractor, stating that the contractor(s) has read and understands the Notification, and agrees to abide by the conditions specified in this Approval;
 - b. a contractor work plan, prepared and submitted by the selected contractor(s) describing the removal and decontamination procedures, and the containment and air monitoring that will be employed during abatement activities. This work plan should also include information on how and where wastes will be stored and disposed of, and on how field equipment will be decontaminated; and,
 - c. a certification signed by the selected analytical laboratory, stating that the laboratory has read and understands the extraction and analytical methods and quality assurance requirements specified in the Notification and in this Approval.

REMEDIAL AND DISPOSAL CONDITIONS

11. To the maximum extent practical, engineering controls, such as barriers, and removal techniques, such as the use of HEPA ventilated tools, shall be utilized during removal processes. In addition, to the maximum extent possible, disposable equipment and materials, including PPE, will be used to reduce the amount of decontamination necessary.
12. PCB-contaminated *non-porous surfaces* (i.e. heating units) shall be decontaminated and confirmatory sampling and analysis shall be conducted as described below:
 - a. All visible residues of PCB sound-damping insulation (i.e. *PCB bulk product waste*) shall be removed.
 - b. The decontamination standard for **non-accessible non-porous surfaces** (e.g. inside surfaces of the heating units) shall be less than or equal to (\leq) $10 \mu\text{g}/100 \text{ cm}^2$ PCBs.
 - i) All post-decontamination verification sampling of *non-porous surfaces* shall be performed on a surface area basis by the standard wipe test as specified in 40 CFR § 761.123 (i.e. $\mu\text{g}/100 \text{ cm}^2$). At least 1 sample shall be collected from each heating unit.
 - ii) Chemical extraction for PCBs shall be conducted using Methods 3500B/3540C of SW-846 and chemical analysis for PCBs shall be conducted using Method 8082 of SW-846, unless another method(s) is validated according to Subpart Q.
 - iii) For decontaminated non-accessible *non-porous surfaces* that have PCB concentrations exceeding the decontamination standard, CCHS may conduct additional decontamination to achieve the required decontamination standard.
 - iv) In the event that CCHS cannot meet the decontamination standard and the heater unit(s) cannot be removed and replaced in summer 2010, CCHS shall notify EPA of the situation by September 1, 2010 and provide a schedule and plan to EPA for the management and disposal of the heater unit(s) by October 1, 2010.
 - v) In lieu of conducting decontamination, PCB-contaminated non-accessible *non-porous surfaces* shall be stored and disposed of in accordance with 40 CFR Part 761.

- c. The decontamination standard for **accessible non-porous surfaces** (e.g. outside surfaces of the heating units) shall be $\leq 1 \mu\text{g}/100 \text{ cm}^2$ PCBs.
 - i) All post-decontamination verification sampling of accessible *non-porous surfaces* shall be performed on a surface area basis by the standard wipe test as specified in 40 CFR § 761.123 (i.e. $\mu\text{g}/100 \text{ cm}^2$). At least 1 sample shall be collected from each heating unit.
 - ii) Chemical extraction for PCBs shall be conducted using Methods 3500B/3540C of SW-846 and chemical analysis for PCBs shall be conducted using Method 8082 of SW-846, unless another method(s) is validated according to Subpart Q.
 - iii) For decontaminated accessible *non-porous surfaces* that have PCB concentrations exceeding the decontamination standard, CCHS may conduct additional decontamination to achieve the required decontamination standard.
 - iv) In the event that CCHS cannot meet the decontamination standard, CCHS shall contact EPA for further discussion and direction on decontamination alternatives and/or requirements.
 - v) In lieu of conducting decontamination, PCB-contaminated accessible *non-porous surfaces* shall be stored and disposed of in accordance with 40 CFR Part 761.
- 13. Indoor air sampling and indoor surface sampling for PCBs shall be conducted to determine the impact of the removal activities on PCB concentrations at the Site.
 - a. CCHS shall submit an indoor air and surface sampling plan for EPA review and approval within 15 days of receipt of this Approval. At a minimum, the plan shall include: locations of air and surface wipe samples; extraction and analytical methods and detection limits; and QA/QC criteria.
 - b. Sampling Requirements
 - i) Sampling shall be completed and the results of the sampling shall be submitted to EPA at least 7 days before the start of the new school year.
 - ii) A minimum of four indoor air samples and a background air sample (per sampling event) shall be collected. Sufficient sample volumes shall be collected to provide a laboratory reporting limit of less than ($<$) $0.1 \mu\text{g}/\text{m}^3$.

- iii) Wipe sampling of indoor surfaces shall be performed on a surface area basis by the standard wipe test as specified in 40 CFR § 761.123 (i.e. $\mu\text{g}/100\text{ cm}^2$). Chemical extraction for PCBs shall be conducted using Methods 3500B/3540C of SW-846; and, chemical analysis for PCBs shall be conducted using Method 8082 of SW-846, unless another extraction and/or analytical method(s) is validated according to Subpart Q.
 - iv) In the event that PCB concentrations in the wipe samples are greater than or equal to ($\geq 1\text{ }\mu\text{g}/100\text{ cm}^2$ or in the air samples are $\geq 0.10\text{ }\mu\text{g}/\text{m}^3$, CCHS shall contact EPA for further discussion and direction on alternatives, which may include development of a site-specific risk exposure assessment or additional abatement measures.
14. All PCB waste (regardless of concentration) generated as a result of the activities described in the Notification, excluding any decontaminated materials, shall be marked in accordance with § 761.40; stored in a manner prescribed in § 761.65; and, disposed of in accordance with 40 CFR § 761.61(a)(5) or § 761.62, unless otherwise specified below:
- a. Decontamination wastes and residues shall be disposed of in accordance with 40 CFR § 761.79(g).
 - b. Moveable equipment, tools, and sampling equipment shall be decontaminated in accordance with either 40 CFR § 761.79(b)(3)(i)(A), § 761.79(b)(3)(ii)(A), or § 761.79(c)(2).
 - c. PCB-contaminated water generated during decontamination or dewatering shall be decontaminated in accordance with 40 CFR § 761.79(b)(1) or disposed of under § 761.60.

INSPECTION, MODIFICATION AND REVOCATION CONDITIONS

15. CCHS shall allow any authorized representative of the Administrator of the EPA to inspect the Site and to inspect records and take samples as may be necessary to determine compliance with the PCB regulations and this Approval. Any refusal by CCHS to allow such an inspection (as authorized by Section 11 of TSCA) shall be grounds for revocation of this Approval.
16. Any proposed modification(s) in the plan, specifications, or information in the Notification must be submitted to EPA no less than 14 calendar days prior to the proposed implementation of the change. Such proposed modifications will be subject to the procedures of 40 CFR § 761.61(a)(3)(ii).

17. Any departure from the conditions of this Approval without prior, written authorization from the EPA may result in the revocation, suspension and/or modification of the Approval, in addition to any other legal or equitable relief or remedy the EPA may choose to pursue.
18. Any misrepresentation or omission of any material fact in the Notification or in any records or reports may result in the EPA's revocation, suspension and/or modification of the Approval, in addition to any other legal or equitable relief or remedy the EPA may choose to pursue.

RECORDKEEPING AND REPORTING CONDITIONS

19. CCHS shall prepare and maintain all records and documents required by 40 CFR Part 761, including but not limited to the records required under Subparts J and K. A written record of the decontamination and the analytical sampling shall be established and maintained by CCHS in one centralized location, until such time as EPA approves in writing a request for an alternative disposition of such records. All records shall be made available for inspection to authorized representatives of EPA.
20. CCHS shall submit a final report to the EPA within 60 days of completion of the activities authorized under this Approval. At a minimum, this final report shall include: a short narrative of the project activities; characterization and confirmation sampling analytical results, including indoor air sampling results; copies of the accompanying analytical chains of custody; field and laboratory quality control/quality assurance checks; an estimate of the quantity of PCB waste disposed of and the size of the decontaminated area(s); copies of manifests; and, copies of certificates of disposal or similar certifications issued by the disposer.
21. Required submittals shall be mailed to:

Kimberly N. Tisa, PCB Coordinator (OSRR07-2)
United States Environmental Protection Agency
5 Post Office Square, Suite 100
Boston, Massachusetts 02109-3912
Telephone: (617) 918-1527
Facsimile: (617) 918-0527
22. No record, report or communication required under this Approval shall qualify as a self-audit or voluntary disclosure under EPA audit, self-disclosure or penalty policies.

END OF ATTACHMENT 1



Scanned

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION I

5 POST OFFICE SQUARE, SUITE 100, BOSTON, MASSACHUSETTS 02109-3912

Certified Mail – Return Receipt Requested

AUG 05 2011

Jeffrey Renton, Partner
Gilbert & Renton, LLC
344 North Main Street
Andover, Massachusetts 01810

Re: PCB Risk-Based Approval under § 761.61(c) and § 761.79(h)
Central Catholic High School, Lawrence, Massachusetts

Dear Mr. Renton:

This is in response to the Notification¹ by Central Catholic High School (CCHS) for approval of a risk-based plan to address PCB-contamination in the 1970s Building (the Site) located at 300 Hampshire Street, Lawrence, Massachusetts. The Site contains PCB-contaminated materials that exceed the allowable PCB levels under 40 CFR § 761.20(a), § 761.61, and § 761.62. Specifically, PCBs have been found in caulk located between concrete panels in the third floor hallways and in various building substrates throughout the Site.

CCHS has proposed a plan under the PCB risk-based disposal option at 40 CFR § 761.61(c) that includes the following major activities:

- Remove PCB caulk and associated products (if present) and dispose as a greater than or equal to (\geq) 50 parts per million (ppm) PCB waste;
- Encapsulate interior and exterior PCB-contaminated *porous surfaces* located adjacent to a caulk joint (e.g., concrete window sills and doorways, concrete panels) with epoxy-based coatings;
- Clean all library *porous* and *non-porous surfaces*, including carpeting and ductwork, to remove potential PCB-contaminated dust; and,
- Implement a long-term monitoring and maintenance plan (MMIP) for the encapsulated *porous surfaces* and for indoor air.

¹

Information was submitted by Ransom Environmental Consultants, Inc. on behalf of CCHS to support a risk-based approach for PCB remediation waste and PCB bulk product waste under 40 CFR § 761.61(c) and § 761.79(h). Information was submitted dated December 14, 2010 (e-mail on school outreach); December 16, 2010 (PCB Risk Reduction Plan); May 20, 2011 (Addendum No. 1 to Plan); July 21, 2011 (contractor work plan and indoor air and surface sampling plan); July 22, 2011 (Addendum No. 2 to Plan); and, August 3, 2011 (e-mail Responses to EPA questions and comments). These submittals, together, will be referred to as the "Notification."

Based on the EPA's review, the information provided in the Notification meets the requirements under § 761.62(a) and § 761.79(h) for abatement of PCB caulk from *porous surfaces* and under § 761.61(c) for encapsulation of PCB-contaminated *porous surfaces*. EPA finds that the proposed encapsulation of PCB-contaminated *porous surfaces* should effectively prevent direct exposure of these PCB-contaminated *porous surfaces* to building users. EPA has determined that these proposed activities will not result in an unreasonable risk to public health or to the environment. As such, EPA may approve the caulk removal from and encapsulation of PCB-contaminated porous surfaces under §§ 761.61(c) and 761.79(h).

CCHS may proceed with its project in accordance with 40 CFR § 761.61(c); § 761.62(a); § 761.79(h); its Notification; and this Approval, subject to the conditions of Attachment 1. Under this Approval, EPA is reserving its right to require additional investigation or mitigation measures should the results of the initial post-abatement sampling or the results of the long-term monitoring sampling indicate an unreasonable risk to the building users.

Please be aware that this Approval requires CCHS to conduct outreach activities for the building users on the PCB remediation work and to develop a communications plan as part of the long-term monitoring and maintenance requirements (see Attachment 1, Conditions 11 and 16).

Following completion of the PCB work authorized under this Approval and as detailed in its Notification, CCHS will be collecting indoor air and surface wipe samples. According to the Notification, the indoor air sampling from the Library will be conducted in mid-August and the remaining areas will be conducted in mid-September 2011. EPA will require that CCHS provide the Library indoor air sample results and all surface wipe sampling results prior to the start of the new school year (see Attachment 1, Condition 13.d).

Please note that CCHS will be required to record a notation on the deed as required under § 761.61(a)(8) since PCBs at greater than (>) 1 ppm will remain on the Site.

Questions and correspondence regarding this Approval should be directed to:

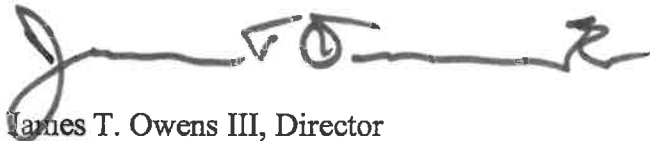
Kimberly N. Tisa, PCB Coordinator (OSRR07-2)
United States Environmental Protection Agency
5 Post Office Square, Suite 100
Boston, Massachusetts 02109-3912
Telephone: (617) 918-1527
Facsimile: (617) 918-0527

EPA shall consider this project complete only when it has received documents evidencing completion of the encapsulation; results of indoor air and surface wipe samples within acceptable limits; and, adoption of the deed restriction activity and use limitations.

Please be aware that upon EPA receipt and review of the submittals, EPA may request any additional information necessary to establish that the work has been completed in accordance with 40 CFR Part 761, the Notification, and this Approval.

Should you have any questions on this matter, please contact Kimberly Tisa at (617) 918-1527.

Sincerely,

A handwritten signature in dark ink, appearing to read "James T. Owens III". The signature is fluid and cursive, with a large initial "J" and a stylized "O".

James T. Owens III, Director
Office of Site Remediation & Restoration

cc MassDEP, NERO
T. Snay, Ransom
File

Attachment 1

ATTACHMENT 1

PCB RISK-BASED APPROVAL CONDITIONS
CENTRAL CATHOLIC HIGH SCHOOL 1970s BUILDING (the Site)
300 HAMPSHIRE STREET
LAWRENCE, MASSACHUSETTS

GENERAL CONDITIONS

1. This Approval is granted under the authority of Section 6(e) of the Toxic Substances Control Act (TSCA), 15 U.S.C. § 2605(e), and the PCB regulations at 40 CFR Part 761, and applies solely to the *PCB bulk product waste* and the *PCB remediation waste* located at the Site and identified in the Notification ⁽²⁾.
2. Central Catholic High School (CCHS) shall conduct on-site activities in accordance with the conditions of this Approval and with the Notification.
3. In the event that the cleanup plan described in the Notification differs from the conditions specified in this Approval, the conditions of this Approval shall govern.
4. The terms and abbreviations used herein shall have the meanings as defined in 40 CFR § 761.3 unless otherwise defined within this Approval.
5. CCHS must comply with all applicable federal, state and local regulations in the storage, handling, and disposal of all PCB wastes, including PCBs, PCB Items and decontamination wastes generated under this Approval. In the event of a new spill during response actions, CCHS shall contact EPA within 24 hours for direction on PCB cleanup and sampling requirements.
6. CCHS is responsible for the actions of all officers, employees, agents, contractors, subcontractors, and others who are involved in activities conducted under this Approval. If at any time CCHS has or receives information indicating that CCHS or any other person has failed, or may have failed, to comply with any provision of this Approval, it must report the information to EPA in writing within 24 hours of having or receiving the information.

⁽²⁾ Information was submitted by Ransom Environmental Consultants, Inc. on behalf of CCHS to support a risk-based approach for PCB remediation waste and PCB bulk product waste under 40 CFR § 761.61(c) and § 761.79(h). Information was submitted dated December 14, 2010 (e-mail on school outreach); December 16, 2010 (PCB Risk Reduction Plan); May 20, 2011 (Addendum No. 1 to Plan); July 21, 2011 (contractor work plan and indoor air and surface sampling plan); July 22, 2011 (Addendum No. 2 to Plan); August 3, 2011 (e-mail Responses to EPA questions and comments). These submittals, together, will be referred to as the "Notification."

7. This Approval does not constitute a determination by EPA that the transporters or disposal facilities selected by CCHS are authorized to conduct the activities set forth in the Notification. CCHS is responsible for ensuring that its selected transporters and disposal facilities are authorized to conduct these activities in accordance with all applicable federal, state and local statutes and regulations.
8. This Approval does not: 1) waive or compromise EPA's enforcement and regulatory authority; 2) release CCHS from compliance with any applicable requirements of federal, state or local law; or 3) release CCHS from liability for, or otherwise resolve any violations of federal, state or local law.

NOTIFICATION AND CERTIFICATION CONDITIONS

9. This Approval may be revoked if the EPA does not receive written notification from CCHS of its acceptance of the conditions of this Approval within 10 business days of receipt.
10. CCHS shall submit the following information for EPA review and/or approval:
 - a. a certification signed by its selected contractor, stating that the contractor(s) has read and understands the Notification, and agrees to abide by the conditions specified in this Approval; and,
 - b. a certification signed by the selected analytical laboratory, stating that the laboratory has read and understands the extraction and analytical methods and quality assurance requirements specified in the Notification and in this Approval.

REMEDIAL AND DISPOSAL CONDITIONS

11. CCHS shall conduct outreach activities for the school community on the PCB remediation work. CCHS shall submit information on its outreach activities within thirty (30) days of receipt of this Approval.
12. To the maximum extent practical, engineering controls, such as barriers, and removal techniques, such as the use of HEPA ventilated tools, shall be utilized during removal processes. In addition, to the maximum extent possible, disposable equipment and materials, including PPE, will be used to reduce the amount of decontamination necessary.
13. PCB-contaminated building materials shall be abated and verification sampling and analysis shall be conducted as described below:
 - a. All visible residues of PCB caulk and associated wastes shall be removed and disposed of as described in the Notification.

- b. Following encapsulation of PCB-contaminated *porous surfaces*, post-encapsulation sampling shall be conducted to determine the effectiveness of the encapsulation.
 - i) Surface wipe samples shall be collected from encapsulated *porous surfaces*. Wipe sampling of encapsulated surfaces shall be performed on a surface area basis by the standard wipe test as specified in 40 CFR § 761.123 (i.e. $\mu\text{g}/100\text{ cm}^2$).
 - ii) Chemical extraction for PCBs shall be conducted using Method 3500B/3540C of SW-846; and, chemical analysis for PCBs shall be conducted using Method 8082 of SW-846, unless another extraction or analytical method(s) is validated according to Subpart Q.
 - iii) In the event that PCB concentrations in the wipe samples are greater than ($>$) $1\text{ }\mu\text{g}/100\text{ cm}^2$, CCHS shall contact EPA for further discussion and direction on alternatives.
- c. Initial post-abatement indoor air sampling and indoor surface sampling for PCBs shall be conducted to determine the impact of the abatement activities.
 - i) Initial post-abatement sampling
 - (1) Indoor air sampling shall be conducted in accordance with EPA Method TO-4A or TO-10A. Sufficient sample volumes shall be collected to provide a minimum laboratory reporting limit of less than ($<$) $0.05\text{ }\mu\text{g}/\text{m}^3$. At a minimum, PCB analysis shall include PCB homologues and/or PCB congeners.
 - (2) Wipe sampling of indoor surfaces shall be performed on a surface area basis by the standard wipe test as specified in 40 CFR § 761.123 (i.e. $\mu\text{g}/100\text{ cm}^2$). Chemical extraction for PCBs shall be conducted using Methods 3500B/3540C of SW-846 and chemical analysis for PCBs shall be conducted using Method 8082 of SW-846, unless another method(s) is validated according to Subpart Q.
 - ii) In the event that PCB concentrations in the wipe samples are $> 1\text{ }\mu\text{g}/100\text{ cm}^2$ or air samples results are $> 0.450\text{ }\mu\text{g}/\text{m}^3$, CCHS shall contact EPA for further discussion and direction on alternatives, which may include development of a site-specific risk exposure assessment.

- iii) Within seven (7) days of receipt of this Approval, CCHS shall submit a plan identifying the number of and locations of the post-abatement samples. The plan must also include a figure(s) identifying the proposed sampling locations.
 - d. CCHS shall provide the Library indoor air sample results and all surface wipe sampling results to EPA prior to the start of the new school year.
 - e. CCHS shall submit a monitoring and maintenance implementation plan (MMIP) to monitor the long-term effectiveness of the encapsulants. (see Condition 16).
14. All PCB waste (regardless of concentration) generated as a result of the activities described in the Notification, excluding any decontaminated materials, shall be marked in accordance with § 761.40; stored in a manner prescribed in § 761.65; and, disposed of in accordance with 40 CFR § 761.61(a)(5) or § 761.62, unless otherwise specified below:
- a. Decontamination wastes and residues shall be disposed of in accordance with 40 CFR § 761.79(g).
 - b. Moveable equipment, tools, and sampling equipment shall be decontaminated in accordance with either 40 CFR § 761.79(b)(3)(i)(A), § 761.79(b)(3)(ii)(A), or § 761.79(c)(2).
 - c. PCB-contaminated water generated during decontamination or dewatering shall be decontaminated in accordance with 40 CFR § 761.79(b)(1) or disposed of under § 761.60.

DEED RESTRICTION AND USE CONDITIONS

15. Within forty-five (45) days of completing the activities described in the Notification and in the Approval, CCHS shall submit for EPA review and approval, a draft deed restriction for the Site. The deed restriction shall include: a description of the extent and levels of contamination at the Site following abatement; a description of the actions taken at the Site; a description of the use restrictions for the Site, if applicable; and the long-term monitoring and maintenance requirements on the Site. Within seven (7) days of receipt of EPA's approval of the draft deed restriction, CCHS shall record the deed restriction. A copy of this Approval shall be attached to the deed restriction.

INSPECTION, MODIFICATION AND REVOCATION CONDITIONS

16. Within thirty (30) days of receipt of this Approval, CCHS shall submit for EPA's review and approval, a detailed long-term monitoring and maintenance implementation plan (MMIP) for the surface encapsulants and for indoor air monitoring. CCHS shall incorporate any changes to the MMIP required by EPA.
 - a. The MMIP shall include: a description of the activities that will be conducted, including inspection criteria, frequency, and routine maintenance activities; sampling protocols, sampling frequency, and analytical criteria; and reporting requirements.
 - b. The MMIP shall include a communications component which details how the maintenance and monitoring results will be communicated to the Site users, including on-site workers and interested stakeholders.
 - c. CCHS shall submit the results of these long-term monitoring and maintenance activities to EPA. Based on its review of the results, EPA may determine that modification to the MMIP is necessary in order to monitor and/or evaluate the long-term effectiveness of the encapsulants.
 - d. Activities required under the MMIP shall be conducted until such time that EPA determines, in writing, that such activities are no longer necessary.
17. Any modification(s) in the plan, specifications, or information submitted by CCHS, contained in the Notification, and forming the basis upon which this Approval has been issued, must receive prior written approval from the EPA. CCHS shall inform the EPA of any modification, in writing, at least ten (10) days prior to such change. No action may be taken to implement any such modification unless the EPA has approved of the modification, in writing. The EPA may request additional information in order to determine whether to approve the modification. If such modification involves a change in the use of the Site which results in exposures not considered in the Notification, the EPA may revoke, suspend, and/or modify this Approval upon finding that this risk-based action may pose an unreasonable risk of injury to health or the environment due to the change in use. EPA may take similar action if the EPA does not receive requested information needed from CCHS to make a determination regarding potential risk.
18. Any departure from the conditions of this Approval without prior, written authorization from the EPA may result in the revocation, suspension and/or modification of the Approval, in addition to any other legal or equitable relief or remedy the EPA may choose to pursue.

19. Any misrepresentation or omission of any material fact in the Notification or in any future records or reports may result in the EPA's revocation, suspension and/or modification of the Approval, in addition to any other legal or equitable relief or remedy the EPA may choose to pursue.
20. Approval for these activities may be revoked, modified or otherwise altered: if EPA finds a violation of the conditions of this Approval or of 40 CFR Part 761, including EPA's PCB Spill Cleanup Policy, or other applicable rules and regulations; if EPA finds that these activities present an unreasonable risk to public health or the environment; if EPA finds that there is migration of PCBs from the Site; or if EPA finds that changes are necessary to comply with new rules, standards, or guidance for such approvals. CCHS may apply for appropriate modifications in the event new rules, standards, or guidance comes into effect.
21. CCHS shall allow any authorized representative of the Administrator of the EPA to inspect the Site and to inspect records and take samples as may be necessary to determine compliance with the PCB regulations and this Approval. Any refusal by CCHS to allow such an inspection (as authorized by Section 11 of TSCA) shall be grounds for revocation of this Approval

RECORDKEEPING AND REPORTING CONDITIONS

22. CCHS shall prepare and maintain all records and documents required by 40 CFR Part 761, including but not limited to the records required under Subparts J and K. A written record of the remedial work and the analytical sampling shall be established and maintained by CCHS in one centralized location, until such time as EPA approves in writing a request for an alternative disposition of such records. All records shall be made available for inspection to authorized representatives of EPA.
23. CCHS shall submit a Final Completion Report (Report) to the EPA within 120 days of completion of the activities described under this Approval. At a minimum, this Report shall include: a discussion of the project activities; characterization and confirmation/verification sampling analytical results; copies of the accompanying analytical chains of custody; field and laboratory quality control/quality assurance checks; an estimate of the quantity of PCBs removed and disposed off-site; copies of manifests; and, copies of certificates of disposal or similar certifications issued by the disposer, if applicable. The Report shall also include a copy of the recorded deed restriction and a certification signed by a CCHS official verifying that the authorized activities have been implemented in accordance with this Approval and the Notification.
24. As required under Condition 16 of this Approval, CCHS shall submit the results of the long-term monitoring and maintenance activities to EPA as specified in the final MMIP to be approved by EPA.

25. Required submittals shall be mailed to:

Kimberly N. Tisa, PCB Coordinator (OSRR07-2)
United States Environmental Protection Agency
5 Post Office Square, Suite 100
Boston, Massachusetts 02109-3912
Telephone: (617) 918-1527
Facsimile: (617) 918-0527

26. No record, report or communication required under this Approval shall qualify as a self-audit or voluntary disclosure under EPA audit, self-disclosure or penalty policies.

END OF ATTACHMENT 1

ATTACHMENT B

Copies of Work and Sampling Plans

Final Completion Report, Submitted Pursuant to the PCB Risk-Based Approval Under 40 CFR §§
761.61(c) and 761.79(h) of the U.S. EPA dated August 5, 2011

Central Catholic High School
300 Hampshire Street
Lawrence, Massachusetts



July 21, 2011

Project 061.01307.011

Ms. Kimberly N. Tisa, PCB Coordinator
Office of Ecosystem Protection
U.S. Environmental Protection Agency, New England Region 1
5 Post Office Square, Suite 100
Boston, Massachusetts 02109-3912

RE: Indoor Air and Surface Sampling Plan
Addendum No. 2—Proposed Final Risk Reduction Plan
Polychlorinated Biphenyl (PCB)-Contaminated Building Materials
1970s Building
Central Catholic High School
300 Hampshire Street
Lawrence, Massachusetts

Dear Ms. Tisa:

Ransom Environmental Consultants, Inc. (Ransom) has prepared this Indoor Air and Surface Sampling Plan (the Sampling Plan) describing the proposed indoor air and wipe sampling to be performed during and following the risk based cleanup and disposal of PCB-contaminated building materials at the 1970s Building of Central Catholic High School (CCHS).

BACKGROUND

Between December 2006 and April 2010, a variety of assessment and risk abatement activities were completed at the 1970s Building to address PCB-contaminated building materials, including window caulking, doorway caulking, exterior vent caulking, and sound-damping insulation. The assessment activities included the collection of wipe samples (work surfaces, window sills, air-handling ducts, and classroom heating units), the collection of bulk samples (caulking, concrete, and sound-damping insulation), and the collection of indoor air samples. Abatement activities included the removal and replacement of the exterior windows, the painting of window sills with epoxy paint, and the removal of caulking from the two emergency exits and the main entrance doorway to the 1970s Building. The results of the assessment and abatement activities completed at the 1970s Building were presented to the U.S. Environmental Protection Agency (U.S. EPA) in a document titled "Final Plan for Risk Based Disposal and Management of Polychlorinated Biphenyl (PCB)-Contaminated Building Materials, 1970s Building, Central Catholic High School, 300 Hampshire Street, Lawrence, Massachusetts," (the Notification) dated June 2, 2010. On July 6, 2010, the U.S. EPA partially approved the Notification with several conditions (the Conditions).

12 Kent Street, Suite 100, Byfield, Massachusetts 01922, Tel (978) 465-1822, Fax (978) 465-2986

400 Commercial Street, Suite 404, Portland, Maine 04101, Tel (207) 772-2891

Pease International Tradeport, 112 Corporate Drive, Portsmouth, New Hampshire 03801, Tel (603) 436-1490

2127 Hamilton Avenue, Hamilton, New Jersey 08619, Tel (609) 584-0090

60 Valley Street, Building F, Suite 106, Providence, Rhode Island 02909, Tel (401) 433-2160

www.ransomenv.com

Ms. Kimberly Tisa
U.S. Environmental Protection Agency

Based on the results of the assessment and abatement activities completed at the 1970s Building, to further address residual PCB-contaminated building substrates (primarily concrete), Ransom proposed further encapsulation (using two dissimilar epoxy coatings) of interior and accessible exterior building openings (windows and doorways) where PCB-containing caulking may have existed. Based on the outcome of the 2010 indoor air sampling, Ransom also proposed a thorough and comprehensive cleaning of the library in an effort to mitigate the airborne dust circulating in the library. In addition, and as described in Addendum 1, Ransom confirmed the presence of PCBs in the caulking between the concrete building panels on the third floor of the 1970s Buildings and targeted this material for removal. On completion of the abatement efforts, Ransom will collect confirmatory wipe and indoor air samples from various locations throughout the 1970s Building. These activities were detailed in the following documents:

1. Proposed Amended Final Risk Reduction Plan, Polychlorinated Biphenyl (PCB)-Contaminated Building Materials, 1970s Building, Central Catholic High School, 300 Hampshire Street, Lawrence, Massachusetts,” prepared by Ransom and dated December 16, 2010;
2. Addendum No. 1—Proposed Final Risk Reduction Plan, Polychlorinated Biphenyl (PCB)-Contaminated Building Materials, 1970s Building, Central Catholic High School, 300 Hampshire Street, Lawrence, Massachusetts,” prepared by Ransom and dated May 20, 2011; and
3. Addendum No. 2—Proposed Final Risk Reduction Plan, Polychlorinated Biphenyl (PCB)-Contaminated Building Materials, 1970s Building, Central Catholic High School, 300 Hampshire Street, Lawrence, Massachusetts,” prepared by Ransom and dated July 21, 2011.

As presented in the December 16, 2010 plan, the objective of the proposed work is to address remaining PCB-contaminated building materials which have been identified at the 1970s Building, including the following:

1. Removal of PCB-contaminated caulking present between the concrete panel joints in the north and south gallery hallways on the third floor of the 1970s Building;
2. Encapsulation, using two dissimilarly colored epoxy coatings, of PCB-contaminated interior and accessible exterior concrete surfaces (window openings/sills, door frames and concrete panel joints); and
3. Detailed cleaning of all surfaces/materials in the library (Room 305) which may be contaminated with PCB-contaminated dust.

Following the completion of Items 1 through 3, above, Ransom proposed to complete the following post-abatement sampling:

1. Air samples will be collected from the three locations at which indoor air samples were previously collected (first-floor hallway, Classroom 204, and the Library [Room 305])

Ms. Kimberly Tisa
U.S. Environmental Protection Agency

for PCB analysis by U.S. EPA Method TO-4, *Determination of PCB Congeners in Ambient Air Using Low Volume Polyurethane Foam (PUF)*;

2. An outdoor air sample will be collected. This sample will be collected and analyzed in the same manner as the indoor air samples; and
3. Ransom will collect wipe samples from a variety of interior surfaces for confirmatory PCB analysis. The wipe samples will be analyzed for PCBs by U.S. EPA Method 8082.

INDOOR AIR SAMPLING

Within approximately 1 month following the cleanup, Ransom will collect indoor air samples from the 1970s Building as follows and consistent with prior indoor air sampling events:

1. First-floor hallway;
2. Classroom 204;
3. Library, Room 305 (two samples);
4. Second-floor hallway; and
5. Ground-floor gymnasium.

The air sampling will be performed using personal air sampling pumps equipped with low-volume polyurethane foam (PUF) cartridges. The pumps will be set to pump at a rate of approximately 4 liters per minute, for 5 hours. Each personal sampling pump will be calibrated prior to use and the calibration checked at the completion of the air sampling. Based on the air sample flow rate and the duration of pumping, the specific volume of air pulled through each PUF cartridge will be determined. The PUF cartridges will be analyzed for PCBs by U.S. EPA Method TO-4, *Determination of PCB Congeners in Ambient Air Using Low Volume Polyurethane Foam (PUF)*.

The laboratory reporting limit for the air samples will be less than 100 nanograms per cubic meter (ng/m³).

SURFACE SAMPLING

Wipe sampling of several of the epoxy-encapsulated surfaces will be performed to confirm effectiveness of encapsulation. Ransom will collect a total of 45 wipe samples from encapsulated surfaces. The hexane-wetted wipe samples will be collected in accordance with the standard wipe test as defined by 40 CFR §761.123. A 100 cm² template will be used to delineate the area of the surface to be sampled. As a quality control (QC) measure, blind duplicate samples will be collected at a rate of one blind duplicate sample for every 10 samples (i.e., 10 percent). The confirmatory samples will be analyzed for PCBs by U.S. EPA Method 8082, with a laboratory reporting limit of 1 µg/100 cm²; each sample will be

Ms. Kimberly Tisa
U.S. Environmental Protection Agency

1. Ground Floor: 6 locations;
2. First Floor: 13 locations;
3. Second Floor: 13 locations; and
4. Third Floor: 13 locations.

Should the results of wipe sampling indicate that PCBs are present at concentrations above $1 \mu\text{g}/100 \text{ cm}^2$, additional cleaning of affected surfaces will be performed. (Under this circumstance, Ransom anticipates that the presence of PCBs on the encapsulated surfaces would most likely be due to PCB-contaminated dust accumulation and not bleed-through of PCBs from the underlying encapsulated material.) The affected surfaces will be cleaned using a clean cloth dampened with a 5% solution of Simple Green detergent. Used cleaning materials (i.e., rags, etc.) generated during this effort will be disposed of as PCB Remediation Waste. After cleaning the affected surfaces, wipe samples will be collected to ensure that PCB concentrations on the surfaces have been reduced to less than $1 \mu\text{g}/100 \text{ cm}^2$.

Should you have any questions regarding this Sampling Plan, please do not hesitate to call.

Sincerely,

RANSOM ENVIRONMENTAL CONSULTANTS, INC.



Timothy J. Snay, LSP, LEP
Vice President

TJS:sh

cc: John Ostrowski, CCHS
Jeffrey Renton, Gilbert & Renton, LLC



July 21, 2011

Project 061.01307.011

Ms. Kimberly N. Tisa, PCB Coordinator
Office of Ecosystem Protection
U.S. Environmental Protection Agency, New England Region 1
5 Post Office Square, Suite 100
Boston, Massachusetts 02109-3912

RE: Contractor Work Plan
Addendum No. 2—Proposed Final Risk Reduction Plan
Polychlorinated Biphenyl (PCB)-Contaminated Building Materials
1970s Building
Central Catholic High School
300 Hampshire Street
Lawrence, Massachusetts

Dear Ms. Tisa:

Ransom Environmental Consultants, Inc. (Ransom) has prepared this Contractor Work Plan (the Work Plan) describing the removal and decontamination procedures and the containment that will be employed during the abatement activities at the 1970s Building of Central Catholic High School (CCHS). This Work Plan also provides information on how and where wastes will be stored and disposed of and how field equipment will be decontaminated.

BACKGROUND

Between December 2006 and April 2010, a variety of assessment and risk abatement activities were completed at the 1970s Building to address PCB-contaminated building materials, including window caulking, doorway caulking, exterior vent caulking, and sound-damping insulation. The assessment activities included the collection of wipe samples (work surfaces, window sills, air-handling ducts, and classroom heating units), the collection of bulk samples (caulking, concrete, and sound-damping insulation), and the collection of indoor air samples. Abatement activities included the removal and replacement of the exterior windows, the painting of window sills with epoxy paint, and the removal of caulking from the two emergency exits and the main entrance doorway to the 1970s Building. The results of the assessment and abatement activities completed at the 1970s Building were presented to the U.S. Environmental Protection Agency (U.S. EPA) in a document titled "Final Plan for Risk Based Disposal and Management of Polychlorinated Biphenyl (PCB)-Contaminated Building Materials, 1970s Building, Central Catholic High School, 300 Hampshire Street, Lawrence, Massachusetts," (the Notification) dated June 2, 2010. On July 6, 2010, the U.S. EPA partially approved the Notification with several conditions (the Conditions).

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60 Valley Street, Building F, Suite 106, Providence, Rhode Island 02909, Tel (401) 433-2160

www.ransomenv.com

Ms. Kimberly Tisa
U.S. Environmental Protection Agency

Based on the results of the assessment and abatement activities completed at the 1970s Building, to further address residual PCB-contaminated building substrates (primarily concrete), Ransom proposed further encapsulation (using two dissimilar epoxy coatings) of interior and accessible exterior building openings (windows and doorways) where PCB-containing caulking may have existed. Based on the outcome of the 2010 indoor air sampling, Ransom also proposed a thorough and comprehensive cleaning of the library in an effort to mitigate the airborne dust circulating in the library. In addition, and as described in Addendum 1, Ransom confirmed the presence of PCBs in the caulking between the concrete building panels on the third floor of the 1970s Buildings and targeted this material for removal. On completion of the abatement efforts, Ransom will collect confirmatory wipe and indoor air samples from various locations throughout the 1970s Building. These activities were detailed in the following documents:

1. Proposed Amended Final Risk Reduction Plan, Polychlorinated Biphenyl (PCB)-Contaminated Building Materials, 1970s Building, Central Catholic High School, 300 Hampshire Street, Lawrence, Massachusetts,” prepared by Ransom and dated December 16, 2010;
2. Addendum No. 1—Proposed Final Risk Reduction Plan, Polychlorinated Biphenyl (PCB)-Contaminated Building Materials, 1970s Building, Central Catholic High School, 300 Hampshire Street, Lawrence, Massachusetts,” prepared by Ransom and dated May 20, 2011; and
3. Addendum No. 2—Proposed Final Risk Reduction Plan, Polychlorinated Biphenyl (PCB)-Contaminated Building Materials, 1970s Building, Central Catholic High School, 300 Hampshire Street, Lawrence, Massachusetts,” prepared by Ransom and dated July 21, 2011.

As presented in the December 16, 2010 plan, the objective of the proposed work is to address remaining PCB-contaminated building materials which have been identified at the 1970s Building, including the following:

1. Removal of PCB-contaminated caulking present between the concrete panel joints in the north and south gallery hallways on the third floor of the 1970s Building;
2. Encapsulation, using two dissimilarly colored epoxy coatings, of PCB-contaminated interior and accessible exterior concrete surfaces (window openings/sills, door frames and concrete panel joints); and
3. Detailed cleaning of all surfaces/materials in the library (Room 305) which may be contaminated with PCB-contaminated dust.

REMOVAL AND DECONTAMINATION PROCEDURES

Removal of PCB-Contaminated Caulking from Third Floor

Removal and replacement of the PCB-contaminated caulking from the third floor joints will be performed utilizing the following procedure:

1. Temporary work area containment shall be erected at each joint: A double layer of polyethylene sheeting shall be placed over the joint area and duct-taped to the concrete wall of the building. There shall be enough slack in the polyethylene sheeting to allow the contractor access to the PCB-contaminated caulking. A single layer of polyethylene sheeting shall be affixed to the floor at the containment enclosure.
2. Caulking Removal:
 - a. Tools (hand and/or electromechanical) shall be utilized to remove the PCB-contaminated caulking from the joint. Care shall be taken to minimize damage to the concrete building panel. Remediation waste shall be placed in a plastic trash bag for temporary storage during removal.
 - b. Removal of residual caulking shall be performed using hexane and a scrub pad. Remediation waste shall be placed in a plastic trash bag for temporary storage during removal. Care shall be taken during the use of hexane or other solvents with respect to indoor air quality and fire hazards.
 - c. Following removal of residual caulking from each joint, the joint and surrounding surfaces shall be vacuumed with a HEPA filter-equipped vacuum and shall wipe area with moist, clean rags. A visual assessment to the decontaminated area shall be to determine if additional decontamination is warranted.
 - d. At the end of each day of work, flooring areas surrounding that day's work area shall be thoroughly vacuumed with a HEPA vacuum to prevent tracking of dust to other areas of the building.

Encapsulation of PCB-Contaminated Interior and Accessible Exterior Concrete Surfaces

Encapsulation of the concrete surfaces (window openings/sills, door frames, and concrete panel joints) in the 1970s Building will mitigate potential future exposures to PCBs which may still present in the concrete. The following locations require encapsulation:

1. Interior window sills and vertical window casings;
2. Interior concrete panel joints in the north and south gallery hallways of the third floor;

3. Exterior window casings and overhangs within reach (all ground-floor and first-floor windows are considered within reach); and
4. Interior and exterior doorway casings.

Specifically, the following areas of exposed concrete shall be encapsulated:

Location	Component	Area (sq. ft.)	Linear (ft.)	Subtotals/Details	Area (sq. ft.)	Linear (ft.)
<i>Interior:</i>	White window sills	434				
	3 rd floor narrow window sills	43		Red brick sills (north and south hallway)	22	
				Grey concrete (library)	11	
				Unknown (west side classrooms)	10	
	Window casings (vertical)		1,399	Concrete		1,144
				Pebble coated, north and south hall 3 rd floor		255
	Doorway casings (vertical)		90	First-floor entryways		38
				Ground level subgrade doorways (including associated windows)		52
<i>Exterior:</i>	Accessible window sills total (top surface only)	58		Smooth concrete sills	10	
				Pebble covered sills	48	
	Accessible window overhang (bottom surface only)	48		All appear to be smooth concrete with one groove		
	Accessible window casings (vertical)		128	All appear to be concrete (no pebbles)		
	Exterior doorway casings (vertical)		90	All appear to be concrete (no pebbles)		
TOTAL:		583	1,707			

1. For the interior and exterior window sills (i.e., the bottom, horizontal surface), the entire exposed surface will be encapsulated; and
2. For remaining surfaces, a 12-inch-wide strip will be applied to the portion of the concrete surface previously in contact with the caulking. The encapsulated concrete panel joints encompass 2,304 square feet.

Consistent with the procedure presented in the December 16, 2010 plan, the encapsulation of the concrete surfaces (window openings/sills, door frames, and concrete panel joints) in the 1970s Building will be performed utilizing the following Sika Corporation (Sika) products: Sikaflex Sealant/Adhesive Primer 260, Sikagard 62 Epoxy Coating, and Sikaflex-1a Polyurethane Elastomeric Sealant/Adhesive. The encapsulation process will entail:

1. Primer Application:
 - a. The substrate will be clean, dry and free of old sealant, dust, laitance, grease, oils, curing compounds and other debris to the greatest degree possible through the use of hand tools;
 - b. Shake or stir primer well before using. Apply with a brush or dauber onto the substrate covering the sides of the joint surface; and
 - c. Allow primer to dry for at least 1 hour before installation of epoxy and sealant.
2. Epoxy Coating Application:
 - a. Premix each component of red epoxy (contrasting color scheme to be approved by CCHS). Proportion equal parts by volume of Component A and Component B in a clean dry mixing pail. Mix thoroughly for 3 minutes. Mix only that quantity of material that can be used within its pot life (35 minutes at 73° F). To minimize color difference, blend two complete Component Bs together. Use only one of the blended Component Bs to mix with a Component A. After the first Component B has been used, blend the second Component B with a new Component B and repeat the above procedure for the entire application;
 - b. Placement. The epoxy resin coating will be applied to the concrete and metal surface with high-quality brushes or rollers. Application thickness will be between 4 to 7 mils per coat; and
 - a. When applying the coating, if possible, never stop the application until the entire surface has been coated. If possible, always discontinue at an edge, corner, or joint. Never let a previously coated film dry. Always coat into wet film. Always apply the coating at a 45° angle to an edge, corner, or joint.
 - b. Repeat steps 2a through 2c using grey epoxy.

3. Sealant Application:
 - a. Prime substrate as specified above;
 - b. Install backer rod in all joints subject to thermal movement to prevent three-sided bonding and to set the depth of the sealant at a maximum of a ½ inch, measured at the center point of the joint width;
 - c. Joints will be masked to prevent discoloration or application on unwanted areas. If using masking tape, it will be removed before the initial cure of the sealant. Masking tape will be applied just prior to the sealant application; and
 - d. Install sealant into the prepared joints when the joint is at the mid-point of its expansion and contraction cycle. Place the nozzle of the gun, either hand, air, or electric powered, into the bottom of the joint and fill the entire joint. Keep the tip of the nozzle in the sealant; continue with a steady flow of sealant to avoid air entrapment. Avoid overlapping the sealant to eliminate the entrapment of air. Tool as required to properly fill the joint.

Detailed Cleaning of Library

The detailed cleaning of surfaces/materials in the library will be performed utilizing the following procedure:

1. All non-porous (e.g., unpainted metal, plastics/PVC, glass, and porcelain) horizontal and vertical surfaces and equipment shall be cleaned using a HEPA vacuum to remove accumulated dust. The surface shall be hand-wipe/wash using a dilute solution of Simple Green cleaning solution (1:30 dilution) on a moistened absorbent pad.
2. All horizontal and vertical surfaces within the specified work area include fixed objects such as shelving, and moveable objects such as desks, tables, chairs and other materials. This will include the interiors of certain cabinets and other storage systems. A “top-down” cleaning approach shall be utilized.
3. All walls, supports, windowsills, door frames, and flooring/carpeting within the specified work area shall be cleaned.
4. The interiors and exteriors of all HVAC-related supply duct work in the specified work area shall be cleaned. HVAC return grills shall also be cleaned.
5. All moveable objects present in the specified work area shall be cleaned. This shall include, but not be limited to, books, computers, and school supplies.

6. The carpet in the work area shall be cleaned utilizing commercially available carpet cleaning equipment and carpet shampoo. Prior to cleaning the carpet, the carpet shall be vacuumed utilizing a vacuum equipped with HEPA filters.
7. All wastes shall be containerized in appropriate, DOT-approved containers.
8. Porous surfaces, including but not limited to wood, concrete, brick, cardboard and insulation, and some painted surfaces shall be cleaned using a HEPA vacuum only.
9. In areas where hand-wiping/washing is required, polyethylene sheeting shall be draped on the floor around equipment before cleaning in order to contain accidental spillage of residual materials onto adjacent surfaces and areas. All decontamination materials including cleaning solutions, HEPA filters, and absorbent pads, will be collected for off-site disposal as PCB Remediation Waste.
10. Smaller pieces of equipment may have surfaces which are not easily accessible using a HEPA vacuum. These surfaces will be hand-wiped using a dilute solution of Simple Green cleaning solution (1:30 dilution) on an absorbent pad.
11. Surfaces to be cleaned include, but are not limited to, all floors, ceilings, walls, beams, columns, shelves, tables, storage containers, boxes, windows and window sills/frames, and fixed and moveable equipment, tools, and other items within the designated area.
12. Cleaning through the work area shall be conducted in logical pattern such that areas deemed to be clean are not re-entered during the remaining cleaning activities, to prevent cross-contamination from areas that have not yet been cleaned. In order to prevent recontamination, all cleaning is to be performed from the top of the area to be cleaning to the bottom.
13. All items and surfaces cleaned with a wash solution shall be thoroughly dried with a clean cloth.
14. At the end of each day of work, flooring areas surrounding that day's work area shall be thoroughly vacuumed with a HEPA vacuum to prevent tracking of dust to other areas of the work area or Site building.

REMEDIATION WASTE MANAGEMENT

Removed caulking, used cleaning materials (paper towels, scrub pads, etc.), used personal protective equipment (PPE), and used containment materials will be placed in either Department of Transportation (DOT)-approved, 1-cubic yard, cardboard, polyethylene-double lined boxes (Flex-packs) or DOT-approved 55-gallon drums, depending on the quantity of PCB Remediation Waste generated during the abatement.

Ms. Kimberly Tisa
U.S. Environmental Protection Agency

PCB wastes generated during the cleanup will be containerized in DOT-approved containers and stored in a centralized location in the 1970s Building. The storage area and containers will be clearly identified and appropriately labeled as required by 40 CFR §761.40.

CCHS will provide the U.S. EPA with information regarding the disposal facility when it is known.

The waste containers will be shipped off-site under a Uniform Hazardous Waste Manifest (Manifest) to a RCRA facility permitted to accept PCB Remediation Waste for disposal. Copies of the Manifests will be maintained at CCHS for U.S. EPA inspection.

Records associated with the Risk-Based Cleanup and Disposal will be maintained at CCHS until such time as CCHS requests in writing and the U.S. EPA approves an alternative disposition of these records.

FIELD EQUIPMENT DECONTAMINATION

Any movable equipment, tools, or sampling equipment which becomes contaminated with PCBs during the cleanup will be decontaminated through self-implementing decontamination procedures, §761.79(c)(2)(i):

1. Equipment will be wiped free of dirt and debris;
2. Using a solvent as appropriate, the equipment will be swabbed as necessary to decontaminate the equipment;
3. The decontamination will be documented in writing and using photographs and maintained for 3 years following the decontamination procedures;
4. Decontamination waste and residues will be disposed of at their existing PCB concentrations in accordance with §761.79(g); and
5. Non-liquid cleaning materials and PPE resulting from decontamination will be disposed of in accordance with §761.61(a)(5)(v).

Ms. Kimberly Tisa
U.S. Environmental Protection Agency

Should you have any questions regarding this Work Plan, please do not hesitate to call.

Sincerely,

RANSOM ENVIRONMENTAL CONSULTANTS, INC.



Timothy J. Snay, LSP, LEP
Vice President

TJS:sh
Attachment

cc: John Ostrowski, CCHS
Jeffrey Renton, Gilbert & Renton, LLC

ATTACHMENT A

Material Safety Data Sheets

Contractor Work Plan

Addendum No. 2—Proposed Final Risk Reduction Plan

Polychlorinated Biphenyl (PCB)-Contaminated Building Materials

1970s Building

Central Catholic High School

300 Hampshire Street

Lawrence, Massachusetts



MATERIAL SAFETY DATA SHEET

Sikaflex Primer 260/205

HMIS

HEALTH	2
FLAMMABILITY	3
REACTIVITY	0
PERSONAL PROTECTION	C

1. Product And Company Identification

Supplier

Sika Corporation
201 Polito Ave
Lyndhurst, NJ 07071

Company Contact: EHS Department
Telephone Number: 201-933-8800
FAX Number: 201-933-9379
Web Site: www.sikausa.com

Manufacturer

Sika Corporation
201 Polito Ave
Lyndhurst, NJ 07071

Company Contact: EHS Department
Telephone Number: 201-933-8800
FAX Number: 201-933-9379
Web Site: www.sikausa.com

Supplier Emergency Contacts & Phone Number

CHEMTREC: 800-424-9300
INTERNATIONAL: 703-527-3887

Manufacturer Emergency Contacts & Phone Number

CHEMTREC: 800-424-9300
INTERNATIONAL: 703-527-3887

Issue Date: 12/05/2003

Product Name: Sikaflex Primer 260/205
CAS Number: Not Established
Chemical Family: Alcohols
MSDS Number: 3000
Product Code: 0425000

Synonyms

SIKAFLEX PRIMER 205 GLASS WIPE
SIKAFLEX PRIMER 260

2. Composition/Information On Ingredients

Ingredient Name	CAS Number	Percent Of Total Weight
METHANOL	67-56-1	90 - 100

3. Hazards Identification

Eye Hazards

May cause eye irritation. May cause permanent eye injury.

Skin Hazards

May cause skin irritation. Harmful if absorbed through skin.

Ingestion Hazards

Harmful if swallowed.

MATERIAL SAFETY DATA SHEET

Sikaflex Primer 260/205

3. Hazards Identification - Continued

Inhalation Hazards

Causes respiratory tract irritation. Harmful if inhaled.

4. First Aid Measures

Eye

In case of contact, hold eyelids apart and immediately flush eyes with plenty of tepid water for at least 15 minutes. Get medical attention immediately if irritation develops and persists.

Skin

In case of contact, immediately flush skin with soap and plenty of tepid water for at least 15 minutes. Get medical attention immediately if irritation (redness, rash, blistering) develops and persists.

Ingestion

Seek medical attention immediately. If victim is fully conscious, give one or two cups of water or milk to drink, induce vomiting immediately if directed to do so by medical personnel.

Inhalation

Remove to fresh air. If not breathing, give artificial respiration, seek medical attention.

5. Fire Fighting Measures

Flash Point: 53 °F 12 °C

Flash Point Method: ASTM D-93

Autoignition Point: N/AV °F

Lower Explosive Limit: N/AV

Upper Explosive Limit: N/AV

Fire And Explosion Hazards

Methyl alcohol is a dangerous fire hazard when exposed to heat, flame or oxidizers. It is explosive in its vapor form when exposed to heat or flame. Vapors may travel to ignition sources and flash back.

Extinguishing Media

In case of fire, use water spray (fog) foam, dry chemical, or CO2.

Fire Fighting Instructions

In the event of a fire, firefighters should wear full protective clothing and NIOSH-approved self-contained breathing apparatus with a full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Eliminate all ignition sources. Use appropriate Personal Protective Equipment (PPE). Absorb and/or contain spill with inert materials (e.g. sand, vermiculite) and then place in appropriate container. For large spills, use water spray to disperse vapors. Prevent runoff from entering waterways or sewers.

7. Handling And Storage

Handling And Storage Precautions

Keep out of reach of children. Store in a cool, dry, well ventilated area. Keep containers tightly closed. Use only with adequate ventilation. Ideal storage temperature: 50-80 F. To prevent static sparks, electrically ground all equipment used in methyl alcohol storage, manufacture and transportation. Use non sparking tools.

Work/Hygienic Practices

Wash thoroughly with soap and water after handling.

MATERIAL SAFETY DATA SHEET

Sikaflex Primer 260/205

8. Exposure Controls/Personal Protection

Engineering Controls

Use of a system of local and/or general exhaust is recommended to keep employee below applicable exposure limits. Refer to the current edition of "Industrial Ventilation: A Manual of Recommended Practice" published by the American Conference of Governmental Industrial Hygienists for information on the design, installation, use, and maintenance of exhaust systems.

Eye/Face Protection

Faceshield over safety glasses or goggles.

Skin Protection

Avoid skin contact. Wear long sleeve shirt and long pants. Chemical resistant gloves.

Respiratory Protection

A respirator protection program that meets 29 CFR 1910.134 requirement must be followed whenever workplace conditions warrant a respirator's use. In areas where the Permissible Exposure Limits are exceeded, use a properly fitted NIOSH-approved respirator.

Other/General Protection

Wash thoroughly with soap and water after handling.

Ingredient(s) - Exposure Limits

METHANOL

ACGIH TLV-STEL 250 ppm (Skin)

ACGIH TLV-TWA 200 ppm (Skin)

OSHA PEL-TWA 200 ppm

9. Physical And Chemical Properties

Appearance

Clear liquid

Odor

Alcohol odor

Chemical Type: Mixture

Physical State: Liquid

Melting Point: N/AV °F

Boiling Point: N/AV °F

Specific Gravity: 0.91

Percent Volatiles: 96.7%

Percent VOCs: 96.70

Packing Density: 7.6 pounds / gallon

Vapor Pressure: N/AV

Vapor Density: >AIR

Solubility: Soluble

Evaporation Rate: Slower than ether

VOC Content: 879 gram / liter

10. Stability And Reactivity

Stability: Stable

Hazardous Polymerization: Will not occur

Conditions To Avoid (Stability)

Heat, open flame

MATERIAL SAFETY DATA SHEET

Sikaflex Primer 260/205

10. Stability And Reactivity - Continued

Incompatible Materials

Oxidizing materials, beryllium dihydride, metals such as potassium or magnesium, reacts explosively with chloroform+heat, nitric acid

Hazardous Decomposition Products

Thermal oxidative decomposition of methyl alcohol can produce CO, CO₂, possible formaldehyde and acrid smoke and irritating fumes.

Conditions To Avoid (Polymerization)

None known

11. Toxicological Information

Miscellaneous Toxicological Information

May cause effect to liver or kidneys

Conditions Aggravated By Exposure

Eye disease, skin disorders, chronic respiratory disease, liver or kidney disorders.

12. Ecological Information

No Data Available...

13. Disposal Considerations

Dispose in accordance with applicable federal, state and local government regulations. Waste generators must determine whether a discarded material is classified as a hazardous waste. USEPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA Information

Waste solutions may meet the RCRA Ignitable characteristic.

14. Transport Information

Proper Shipping Name

METHANOL SOLUTION

Hazard Class

3, PG. II

DOT Identification Number

UN1230

DOT Shipping Label

FLAMMABLE

15. Regulatory Information

U.S. Regulatory Information

All ingredients of this product are listed or are excluded from listing under the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

SARA Hazard Classes

Acute Health Hazard
Chronic Health Hazard
Fire Hazard

MATERIAL SAFETY DATA SHEET

Sikaflex Primer 260/205

15. Regulatory Information - Continued

SARA Title III - Section 313 Supplier Notification

This product contains the following toxic chemicals that are subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372.

METHANOL (67-56-1) 90 - 100 %

This information must be included on all MSDSs that are copied and distributed for this material.

SARA Section 313 Notification

This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372. This information must be included in all MSDSs that are copied and distributed for this material.

Methanol

Ingredient(s) - U.S. Regulatory Information

METHANOL

SARA Title III - Section 313 Form "R"/TRI Reportable Chemical

SARA - Acute Health Hazard

SARA - Chronic Health Hazard

SARA - Fire Hazard

Ingredient(s) - State Regulations

METHANOL

New Jersey - Workplace Hazard

New Jersey - Environmental Hazard

New Jersey - Special Hazard

Pennsylvania - Workplace Hazard

Massachusetts - Hazardous Substance

New York City - Hazardous Substance

16. Other Information

HMIS Rating

Health: 2

Fire: 3

Reactivity: 0

PPE: C

Revision/Preparer Information

MSDS Preparer: EHS Department

MSDS Preparer Phone Number: 201-933-8800

This MSDS Supersedes A Previous MSDS Dated: 09/24/2003

Disclaimer

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SIKA CORPORATION



MATERIAL SAFETY DATA SHEET

Sikaflex® 1A (All Colors)

HMIS

HEALTH	*2
FLAMMABILITY	1
REACTIVITY	0
PERSONAL PROTECTION	C

1. Product And Company Identification

Supplier

Sika Corporation
201 Polito Ave
Lyndhurst, NJ 07071

Company Contact: EHS Department
Telephone Number: 201-933-8800
FAX Number: 201-933-9379
Web Site: www.sikausa.com

Manufacturer

Sika Corporation
201 Polito Ave
Lyndhurst, NJ 07071

Company Contact: EHS Department
Telephone Number: 201-933-8800
FAX Number: 201-933-9379
Web Site: www.sikausa.com

Supplier Emergency Contacts & Phone Number

CHEMTREC: 800-424-9300
INTERNATIONAL: 703-527-3887

Manufacturer Emergency Contacts & Phone Number

CHEMTREC: 800-424-9300
INTERNATIONAL: 703-527-3887

Issue Date: 08/09/2007

Product Name: Sikaflex® 1A (All Colors)

CAS Number: Not Established

Chemical Family: Polyurethane

MSDS Number: 4016

Product Code: 0431543

2. Composition/Information On Ingredients

Ingredient Name	CAS Number		Percent Of Total Weight
POLYISOCYANATE PREPOLYMER	Trade Secret		
XYLENE (MIXED ISOMERS)	1330-20-7	<	4

3. Hazards Identification

Eye Hazards

Causes eye irritation.

Skin Hazards

May cause skin irritation. Prolonged and/or repeated skin contact may cause an allergic reaction/sensitization.

Ingestion Hazards

May be harmful if swallowed.

Inhalation Hazards

May cause nose, throat, and lung irritation. May cause an allergic respiratory reaction / sensitization after prolonged or repeated contact. Reports have associated repeated and prolonged exposure to some of the

MATERIAL SAFETY DATA SHEET

Sikaflex® 1A (All Colors)

3. Hazards Identification - Continued

Inhalation Hazards - Continued

chemicals in this product with permanent brain, liver, kidney, and Central Nervous System damage. Headaches and dizziness may result.

4. First Aid Measures

Eye

In case of contact, hold eyelids apart and immediately flush eyes with plenty of tepid water for at least 15 minutes. Get medical attention immediately if irritation develops and persists.

Skin

In case of contact, immediately flush skin with soap and plenty of tepid water for at least 15 minutes. Get medical attention immediately if irritation (redness, rash, blistering) develops and persists.

Ingestion

If victim is fully conscious do not induce vomiting, give one or two cups of water or milk to drink. Call a physician or a poison control center immediately.

Inhalation

Remove to fresh air. If not breathing, give artificial respiration, seek medical attention.

5. Fire Fighting Measures

Flash Point: N/A °F

Flash Point Method: Solid per ASTM D4359

Autoignition Point: N/AV °F

Lower Explosive Limit: N/AV

Upper Explosive Limit: N/AV

Fire And Explosion Hazards

During a fire, irritating and/or toxic gases and aerosols from the decomposition/combustion products may be present.

Extinguishing Media

In case of fire, use water spray (fog) foam, dry chemical, or CO2.

Fire Fighting Instructions

In the event of a fire, firefighters should wear full protective clothing and NIOSH-approved self-contained breathing apparatus with a full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Avoid release to the environment. Use appropriate Personal Protective Equipment (PPE). Contain spill and collect with absorbent material and transfer into suitable containers. Do not flush to sewer or allow to enter waterways. Ventilate enclosed area.

7. Handling And Storage

Handling And Storage Precautions

Keep out of reach of children. Store in a cool, dry, well ventilated area. Keep containers tightly closed.

Handling Precautions

Do not smoke. Use only in well ventilated areas. Condition to 65-85F before using. Use only with ventilation sufficient to reduce potential exposures (air borne levels of dust, fumes, vapors, etc.) to below recommended exposure limits.

Storage Precautions

Do not store near excessive heat. Store in tightly closed containers and protect from moisture and foreign

MATERIAL SAFETY DATA SHEET

Sikaflex® 1A (All Colors)

7. Handling And Storage - Continued

Storage Precautions - Continued

material. Ideal storage temperature is less than 75F. If maximum storage temperature is exceeded, material may prematurely polymerize without hazard.

Work/Hygienic Practices

Wash thoroughly with soap and water after handling.

8. Exposure Controls/Personal Protection

Engineering Controls

Use of a system of local and/or general exhaust is recommended to keep employee below applicable exposure limits. Refer to the current edition of "Industrial Ventilation: A Manual of Recommended Practice" published by the American Conference of Governmental Industrial Hygienists for information on the design, installation, use, and maintenance of exhaust systems.

Eye/Face Protection

Safety glasses with side shields or goggles.

Skin Protection

Chemical-resistant gloves. Lab coat or other work clothing to prevent skin exposure (Long sleeve shirt and long pants). Launder before reuse.

Respiratory Protection

A respirator protection program that meets 29 CFR 1910.134 requirement must be followed whenever workplace conditions warrant a respirator's use. In areas where the Permissible Exposure Limits are exceeded, use a properly fitted NIOSH-approved respirator.

Other/General Protection

Wash thoroughly after handling.

Ingredient(s) - Exposure Limits

XYLENE (MIXED ISOMERS)
ACGIH TLV-STEL 150 ppm
ACGIH TLV-TWA 100 ppm
OSHA PEL-TWA 100 ppm

9. Physical And Chemical Properties

Appearance

Paste (solid) in various colors

Odor

Aromatic odor

Chemical Type: Mixture

Physical State: Solid

Melting Point: N/AV °F

Boiling Point: N/AV °F

Specific Gravity: 1.4 grams/cm³

Percent VOCs: < 4%

Packing Density: 11.5 - 12.0 pounds /gallon

Vapor Pressure: N/AV

Vapor Density: > Air

Solubility: N/AV

Evaporation Rate: Slower than ether

VOC Content: < 40 grams / liter (EPA Method 24)

MATERIAL SAFETY DATA SHEET

Sikaflex® 1A (All Colors)

10. Stability And Reactivity

Stability: Stable

Hazardous Polymerization: Will not occur

Conditions To Avoid (Stability)

Open flame

Incompatible Materials

Water, Alcohol, Amines

Hazardous Decomposition Products

Carbon Dioxide, Carbon Monoxide, and Oxides of Nitrogen, Smoke, Fumes

Conditions To Avoid (Polymerization)

None known

11. Toxicological Information

Conditions Aggravated By Exposure

Eye disease, skin disorders and allergies, chronic respiratory conditions.

12. Ecological Information

No Data Available...

13. Disposal Considerations

Dispose in accordance with applicable federal, state and local government regulations. Waste generators must determine whether a discarded material is classified as a hazardous waste. USEPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

14. Transport Information

Proper Shipping Name

Not regulated by the USDOT.

15. Regulatory Information

U.S. Regulatory Information

All ingredients of this product are listed or are excluded from listing under the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

SARA Hazard Classes

Acute Health Hazard
Chronic Health Hazard

SARA Title III - Section 313 Supplier Notification

This product contains the following toxic chemicals that are subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372.

XYLENE (MIXED ISOMERS) (1330-20-7) <4 %

This information must be included on all MSDSs that are copied and distributed for this material.

Ingredient(s) - U.S. Regulatory Information

XYLENE (MIXED ISOMERS)
SARA Title III - Section 313 Form "R"/TRI Reportable Chemical
SARA - Acute Health Hazard
SARA - Chronic Health Hazard

MATERIAL SAFETY DATA SHEET

Sikaflex® 1A (All Colors)

15. Regulatory Information - Continued

Ingredient(s) - U.S. Regulatory Information - Continued

SARA - Fire Hazard

Ingredient(s) - State Regulations

XYLENE (MIXED ISOMERS)

New Jersey - Workplace Hazard

New Jersey - Environmental Hazard

New Jersey - Special Hazard

Pennsylvania - Workplace Hazard

Pennsylvania - Environmental Hazard

Massachusetts - Hazardous Substance

New York City - Hazardous Substance

16. Other Information

HMIS Rating

Health: *2

Fire: 1

Reactivity: 0

PPE: C

Revision/Preparer Information

MSDS Preparer: EHS Department

MSDS Preparer Phone Number: 201 933 8800

This MSDS Supersedes A Previous MSDS Dated: 12/11/2006

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The information contained in this Material Safety Data Sheet applies only to the actual Sika Corporation ("Sika") product identified and described herein. This information is not intended to address, nor does it address the use or application of the identified Sika product in combination with any other material, product or process. All of the information set forth herein is based on technical data regarding the identified product that Sika believes to be reliable as of the date hereof. Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's current Technical Data Sheet, product label and Material Safety Data Sheet for each Sika product, which are available at web site and/or telephone number listed in Section 1 of this MSDS.

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Sika Corporation

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MATERIAL SAFETY DATA SHEET

Sikagard 62 - Part A (ALL COLORS)

HMIS

HEALTH	2
FLAMMABILITY	1
REACTIVITY	0
PERSONAL PROTECTION	C

1. Product And Company Identification

Supplier

Sika Corporation
201 Polito Ave
Lyndhurst, NJ 07071

Company Contact: EHS Department
Telephone Number: 201-933-8800
FAX Number: 201-933-9379
Web Site: www.sikausa.com

Manufacturer

Sika Corporation
201 Polito Ave
Lyndhurst, NJ 07071

Company Contact: EHS Department
Telephone Number: 201-933-8800
FAX Number: 201-933-9379
Web Site: www.sikausa.com

Supplier Emergency Contacts & Phone Number

CHEMTREC: 800-424-9300
INTERNATIONAL: 703-527-3887

Manufacturer Emergency Contacts & Phone Number

CHEMTREC: 800-424-9300
INTERNATIONAL: 703-527-3887

Issue Date: 11/27/2007

Product Name: Sikagard 62 - Part A (ALL COLORS)

CAS Number: Not Established

Chemical Family: Epoxy Compound

MSDS Number: 4220

Product Code: 0601130

2. Composition/Information On Ingredients

Ingredient Name	CAS Number	Percent Of Total Weight
AROMATIC HYDROCARBON BLEND	68477-31-6	
EPOXY RESIN	25085-99-8	

3. Hazards Identification

Eye Hazards

EYE IRRITANT.

Skin Hazards

MAY CAUSE SKIN IRRITATION. PROLONGED AND/OR REPEATED CONTACT WITH SKIN MAY CAUSE AN ALLERGIC REACTION/SENSITIZATION.

Ingestion Hazards

ACUTELY TOXIC. HARMFUL IF ASPIRATED INTO LUNGS.

MATERIAL SAFETY DATA SHEET

Sikagard 62 - Part A (ALL COLORS)

3. Hazards Identification - Continued

Inhalation Hazards

MAY CAUSE RESPIRATORY TRACT IRRITATION.

4. First Aid Measures

Eye

RINSE EYES THOROUGHLY WITH WATER FOR AT LEAST 15 MINUTES. CONSULT PHYSICIAN.

Skin

WASH SKIN THOROUGHLY WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING.
IF SYMPTOMS PERSIST CONSULT PHYSICIAN.

Ingestion

DILUTE WITH WATER. DO NOT INDUCE VOMITING. CONTACT PHYSICIAN.

Inhalation

REMOVE TO FRESH AIR. IF BREATHING HAS STOPPED, INSTITUTE ARTIFICIAL RESPIRATION. CONSULT WITH PHYSICIAN.

5. Fire Fighting Measures

Flash Point: 355 °F

Autoignition Point: N/AV °F

Fire And Explosion Hazards

NONE KNOWN

Extinguishing Media

In case of fire, use water spray (fog) foam, dry chemical, or CO2.

Fire Fighting Instructions

In the event of a fire, firefighters should wear full protective clothing and NIOSH-approved self-contained breathing apparatus with a full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

WEARING PROPER PROTECTIVE CLOTHING, CONTAIN SPILL AND COLLECT WITH ABSORBENT MATERIAL.
SHOVEL INTO CLOSABLE CONTAINERS. AVOID CONTACT.

7. Handling And Storage

Handling And Storage Precautions

STORE IN A COOL AREA. KEEP CONTAINERS TIGHTLY CLOSED.

Work/Hygienic Practices

Wash thoroughly with soap and water after handling.

8. Exposure Controls/Personal Protection

Engineering Controls

Use with adequate general and local exhaust ventilation. Refer to the current edition of "Industrial Ventilation: A Manual of Recommended Practice" published by the American Conference of Governmental Industrial Hygienists for information on the design, installation, use, and maintenance of exhaust systems.

Eye/Face Protection

Safety glasses with side shields or goggles.

Skin Protection

AVOID SKIN CONTACT. WEAR LONG SLEEVE SHIRT AND LONG PANTS.
WEAR CHEMICAL RESISTANT GLOVES.

MATERIAL SAFETY DATA SHEET

Sikagard 62 - Part A (ALL COLORS)

8. Exposure Controls/Personal Protection - Continued

Respiratory Protection

A respirator protection program that meets 29 CFR 1910.134 requirement must be followed whenever workplace conditions warrant a respirator's use.

Other/General Protection

WASH THOROUGHLY AFTER HANDLING.

Ingredient(s) - Exposure Limits

AROMATIC HYDROCARBON BLEND

ACGIH TLV: NOT ESTABLISHED

OSHA PEL: NOT ESTABLISHED

NTP: NO

IARC: NO

EPOXY RESIN

ACGIH TLV: NOT ESTABLISHED

OSHA PEL: NOT ESTABLISHED

NTP: NO

IARC: NO

9. Physical And Chemical Properties

Appearance

LIGHT YELLOW LIQUID

Odor

MILD AROMATIC ODOR

Chemical Type: Mixture

Physical State: Liquid

Melting Point: N/AV °F

Boiling Point: N/AV °F

Specific Gravity: 1.14

Percent Volatiles: 0%

Vapor Pressure: N/AV

Vapor Density: > AIR

Solubility: N/AV

Evaporation Rate: SLOWER THAN ETHER

VOC Content (A+B): < 100 grams / liter

10. Stability And Reactivity

Stability: STABLE

Hazardous Polymerization: WILL NOT OCCUR

Conditions To Avoid (Stability)

NONE KNOWN

Incompatible Materials

STRONG OXIDIZING MATERIALS, ACIDS AND BASES.

Hazardous Decomposition Products

CO, CO₂, ALDEHYDES AND OTHER ORGANICS

Conditions To Avoid (Polymerization)

FIRES/EXOTHERM WHEN CURING IN MASS.

MATERIAL SAFETY DATA SHEET

Sikagard 62 - Part A (ALL COLORS)

11. Toxicological Information

Conditions Aggravated By Exposure

EYE DISEASE, SKIN DISORDERS AND ALLERGIES, CHRONIC RESPIRATORY DISEASE

12. Ecological Information

No Data Available...

13. Disposal Considerations

Dispose in accordance with applicable federal, state and local government regulations.

14. Transport Information

Proper Shipping Name

NOT REGULATED UNDER D.O.T.

15. Regulatory Information

U.S. Regulatory Information

All ingredients of this product are listed or are excluded from listing under the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

SARA Hazard Classes

Acute Health Hazard
Chronic Health Hazard

SARA Section 313 Notification

This product does not contain any ingredients regulated under Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 or 40 CFR 372.

16. Other Information

HMIS Rating

Health: 2

Fire: 1

Reactivity: 0

PPE: C

Revision/Preparer Information

MSDS Preparer: EHS Department

MSDS Preparer Phone Number: 201-933-8800

This MSDS Supersedes A Previous MSDS Dated: 02/20/2007

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M A T E R I A L S A F E T Y D A T A S H E E T

Sikagard 62 - Part A (ALL COLORS)

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MATERIAL SAFETY DATA SHEET

Sikagard 62 - Part B (ALL COLORS)

HMIS

HEALTH	3
FLAMMABILITY	1
REACTIVITY	0
PERSONAL PROTECTION	C

1. Product And Company Identification

Supplier

Sika Corporation
201 Polito Ave
Lyndhurst, NJ 07071

Company Contact: EHS Department
Telephone Number: 201-933-8800
FAX Number: 201-933-9379
Web Site: www.sikausa.com

Manufacturer

Sika Corporation
201 Polito Ave
Lyndhurst, NJ 07071

Company Contact: EHS Department
Telephone Number: 201-933-8800
FAX Number: 201-933-9379
Web Site: www.sikausa.com

Supplier Emergency Contacts & Phone Number

CHEMTREC: 800-424-9300
INTERNATIONAL: 703-527-3887

Manufacturer Emergency Contacts & Phone Number

CHEMTREC: 800-424-9300
INTERNATIONAL: 703-527-3887

DOT NON CORROSIVE AS PER 11/3/97 TESTING

Issue Date: 11/27/2007

Product Name: Sikagard 62 - Part B (ALL COLORS)

CAS Number: Not Established

Chemical Family: Amine

MSDS Number: 4221

Product Code: 0601792

2. Composition/Information On Ingredients

Ingredient Name	CAS Number	Percent Of Total Weight
AROMATIC HYDROCARBON BLEND	68477-31-6	
BENZYL ALCOHOL	100-51-6	
PROPRIETARY BLEND OF ALIPHATIC & CYCLIC AMINES	Not Establis	
SILICA, QUARTZ	14808-60-7	

*EXPOSURE TO SILICA, QUARTZ IS APPLICABLE ONLY IF CURED WITH PART "A" AND SANDED.

3. Hazards Identification

Eye Hazards

CONTACT MAY CAUSE SEVERE IRRITATION AND PAIN AND MAY CAUSE BURNS, NECROSIS AND PERMANENT INJURY. MAY CAUSE VISUAL DISTURBANCES, CORNEA DAMAGE, DAMAGE TO THE OPTIC NERVE OR BLINDNESS.

MATERIAL SAFETY DATA SHEET

Sikagard 62 - Part B (ALL COLORS)

3. Hazards Identification - Continued

Skin Hazards

CONTACT MAY CAUSE SEVERE IRRITATION AND PAIN AND MAY CAUSE BURNS, NECROSIS AND PERMANENT INJURY. PROLONGED AND/OR REPEATED CONTACT WITH SKIN MAY CAUSE ANALLERGIC REACTION/SENSITIZATION.

Ingestion Hazards

ACUTELY TOXIC. HARMFUL IF ASPIRATED INTO LUNGS.

Inhalation Hazards

MAY CAUSE RESPIRATORY TRACT IRRITATION. OVEREXPOSURE MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS.

4. First Aid Measures

Eye

RINSE EYES THOROUGHLY WITH WATER FOR AT LEAST 15 MINUTES. CONSULT PHYSICIAN.

Skin

WASH SKIN THOROUGHLY WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING. IF SYMPTOMS PERSIST CONSULT PHYSICIAN.

Ingestion

DILUTE WITH WATER. DO NOT INDUCE VOMITING. CONTACT PHYSICIAN.

Inhalation

REMOVE TO FRESH AIR. IF BREATHING HAS STOPPED, INSTITUTE ARTIFICIAL RESPIRATION. CONSULT WITH PHYSICIAN.

5. Fire Fighting Measures

Flash Point: >220 °F

Autoignition Point: N/AV °F

Fire And Explosion Hazards

EXPOSURE TO HEAT BUILDS UP PRESSURE IN CLOSED CONTAINERS.

Extinguishing Media

In case of fire, use water spray (fog) foam, dry chemical, or CO2.

Fire Fighting Instructions

In the event of a fire, firefighters should wear full protective clothing and NIOSH-approved self-contained breathing apparatus with a full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

WEAR SUITABLE PROTECTIVE EQUIPMENT. VENTILATE AREA. CONTAIN SPILL AND COLLECT WITH ABSORBENT MATERIAL AND TRANSFER INTO SUITABLE CONTAINERS. AVOID CONTACT.

7. Handling And Storage

Handling And Storage Precautions

STORE IN A COOL, DRY, WELL VENTILATED AREA. KEEP CONTAINERS TIGHTLY CLOSED.

Work/Hygienic Practices

Wash thoroughly with soap and water after handling.

MATERIAL SAFETY DATA SHEET

Sikagard 62 - Part B (ALL COLORS)

8. Exposure Controls/Personal Protection

Engineering Controls

Use with adequate general and local exhaust ventilation.

Eye/Face Protection

Safety glasses with side shields or goggles.

Skin Protection

AVOID SKIN CONTACT. WEAR LONG SLEEVE SHIRT AND LONG PANTS. CHEMICAL RESISTANT GLOVES.

Respiratory Protection

A respirator protection program that meets 29 CFR 1910.134 requirement must be followed whenever workplace conditions warrant a respirator's use. In areas where the Permissible Exposure Limits are exceeded, use a properly fitted NIOSH-approved respirator.

Other/General Protection

WASH THOROUGHLY AFTER HANDLING.

Ingredient(s) - Exposure Limits

AROMATIC HYDROCARBON BLEND

ACGIH TLV: NOT ESTABLISHED

OSHA PEL: NOT ESTABLISHED

IARC: NO

NTP: NO

PROPRIETARY BLEND OF ALIPHATIC & CYCLIC AMINES

ACGIH TLV: NOT ESTABLISHED

OSHA PEL: NOT ESTABLISHED

IARC: NO

NTP: NO

SILICA, QUARTZ

ACGIH TLV-TWA 0.1 mg/m3 (Notice of Intended Change)

ACGIH TLV-TWA 0.05 mg/m3 (Proposed)

OSHA PEL-TWA 30/%SiO₂+2 mg/m3

OSHA PEL-TWA 10/%SiO₂+2 mg/m3

OSHA PEL-TWA 250/%SiO₂+5 mppcf

9. Physical And Chemical Properties

Appearance

VISCOUS LIQUID (VARIOUS COLORS)

Odor

AMINE ODOR

Chemical Type: Mixture

Physical State: Liquid

Melting Point: N/AV °F

Boiling Point: N/AV °F

Specific Gravity: 1.70

Vapor Pressure: N/AV

Vapor Density: >AIR

Solubility: N/AV

Evaporation Rate: SLOWER THAN ETHER

VOC Content (A+B): < 100 grams / liter

MATERIAL SAFETY DATA SHEET

Sikagard 62 - Part B (ALL COLORS)

10. Stability And Reactivity

Stability: STABLE

Hazardous Polymerization: WILL NOT OCCUR

Conditions To Avoid (Stability)

NONE KNOWN

Incompatible Materials

STRONG OXIDIZING AGENTS, ACID AND EPOXY RESINS UNDER UNCONTROLLED CONDITIONS

Hazardous Decomposition Products

CO, CO₂, OXIDES OF NITROGEN

11. Toxicological Information

Miscellaneous Toxicological Information

Conditions Aggravated By Exposure

EYE DISEASE, SKIN DISORDERS AND ALLERGIES, CHRONIC RESPIRATORY CONDITIONS

Ingredient(s) - Carginogenicity

SILICA, QUARTZ

NTP - Listed On The National Toxicology Program

Listed In The IARC Monographs

12. Ecological Information

No Data Available...

13. Disposal Considerations

Dispose in accordance with applicable federal, state and local government regulations.

14. Transport Information

Proper Shipping Name

NOT REGULATED BY D.O.T.

15. Regulatory Information

U.S. Regulatory Information

All ingredients of this product are listed or are excluded from listing under the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

SARA Hazard Classes

Acute Health Hazard

Chronic Health Hazard

SARA Section 313 Notification

This product does not contain any ingredients regulated under Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 or 40 CFR 372.

State Regulations

WARNING: This product contains a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm.

MATERIAL SAFETY DATA SHEET

Sikagard 62 - Part B (ALL COLORS)

15. Regulatory Information - Continued

Ingredient(s) - State Regulations

BENZYL ALCOHOL

New Jersey - Workplace Hazard

Pennsylvania - Workplace Hazard

Massachusetts - Hazardous Substance

SILICA, QUARTZ

New Jersey - Workplace Hazard

Pennsylvania - Workplace Hazard

California - Proposition 65

Massachusetts - Hazardous Substance

16. Other Information

HMIS Rating

Health: 3

Fire: 1

Reactivity: 0

PPE: C

Revision/Preparer Information

MSDS Preparer: EHS Department

MSDS Preparer Phone Number: 201-933-8800

This MSDS Supersedes A Previous MSDS Dated: 02/20/2007

Disclaimer

The information contained in this Material Safety Data Sheet applies only to the actual Sika Corporation ("Sika") product identified and described herein. This information is not intended to address, nor does it address the use or application of the identified Sika product in combination with any other material, product or process. All of the information set forth herein is based on technical data regarding the identified product that Sika believes to be reliable as of the date hereof. Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's current Technical Data Sheet, product label and Material Safety Data Sheet for each Sika product, which are available at web site and/or telephone number listed in Section 1 of this MSDS.

SIKA MAKES NO WARRANTIES EXPRESS OR IMPLIED AND ASSUMES NO LIABILITY ARISING FROM THIS INFORMATION OR ITS USE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES AND SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.

All sales of Sika products are subject to its current terms and conditions of sale available at www.sikacorp.com or 201-933-8800.

SIKA CORPORATION

Printed Using MSDS Generator™ 2000

MSDS Number: **H2381** * * * * * Effective Date: **08/10/04** * * * * * Supersedes: **11/02/01****Material Safety Data Sheet**

From: Mallinckrodt Baker, Inc.
222 Red School Lane
Phillipsburg, NJ 08865



All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

24 Hour Emergency Telephone: 908-859-2151

CHEMTREC: 1-800-424-9300

National Response in Canada

CANUTEC: 613-996-6666

Outside U.S. And Canada

Chemtrec: 703-527-3887

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

HEXANE

1. Product Identification

Synonyms: Hexanes, Normal Hexane; Hexyl Hydride; Hexane 95%

CAS No.: 110-54-3 (n-hexane)

Molecular Weight: 86.18

Chemical Formula: CH₃(CH₂)₄CH₃ n-hexane

Product Codes: 9262, 9304, 9308, N168

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Hexane	110-54-3	85 - 100%	Yes
Methylcyclopentane	96-37-7	1 - 2%	Yes
Trace amount of Benzene (10 ppm)	071-43-2	*	No

3. Hazards Identification

Emergency Overview

DANGER! EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE. HARMFUL OR FATAL IF SWALLOWED. HARMFUL IF INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. AFFECTS THE CENTRAL AND PERIPHERAL NERVOUS SYSTEMS.

J.T. Baker SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health Rating: 2 - Moderate

Flammability Rating: 3 - Severe (Flammable)

Reactivity Rating: 0 - None

Contact Rating: 2 - Moderate

Lab Protective Equip: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES; CLASS B EXTINGUISHER

Storage Color Code: Red (Flammable)

Potential Health Effects

The health hazards addressed are for the major component: n-hexane.

Inhalation:

Inhalation of vapors irritates the respiratory tract. Overexposure may cause lightheadedness, nausea, headache, and blurred vision. Greater exposure may cause muscle weakness, numbness of the extremities, unconsciousness and death.

Ingestion:

May produce abdominal pain, nausea. Aspiration into lungs can produce severe lung damage and is a medical emergency. Other symptoms expected to parallel inhalation.

Skin Contact:

May cause redness, irritation, with dryness, cracking.

Eye Contact:

Vapors may cause irritation. Splashes may cause redness and pain.

Chronic Exposure:

Repeated or prolonged skin contact may defat the skin and produce irritation and dermatitis. Chronic inhalation may cause peripheral nerve disorders and central nervous system effects.

Aggravation of Pre-existing Conditions:

Persons with pre-existing skin disorders or eye problems or impaired respiratory function may be more susceptible to the effects of the substance. May affect the developing fetus.

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion:

Aspiration hazard. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact:

Remove any contaminated clothing. Wipe off excess from skin. Wash skin with soap and water for at least 15 minutes. Get medical attention if irritation develops or persists.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Note to Physician:

BEI=2,5-hexadione in urine, sample at end of shift at workweeks end, 5 mg/g creatine. Also, measure n-hexane in expired air. Analgesics may be necessary for pain management, there is no specific antidote. Monitor arterial blood gases in cases of severe aspiration.

5. Fire Fighting Measures

Fire:

Flash point: -23C (-9F) CC

Autoignition temperature: 224C (435F)

Flammable limits in air % by volume:

lcl: 1.2; ucl: 7.7

Extremely Flammable Liquid and Vapor! Vapor may cause flash fire. Dangerous fire hazard when exposed to heat or flame.

Explosion:

Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Contact with oxidizing materials may cause extremely violent combustion. Explodes when mixed @ 28C with dinitrogen tetroxide. Sensitive to static discharge.

Fire Extinguishing Media:

Dry chemical, foam or carbon dioxide. Water may be ineffective.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Water spray may be used to keep fire exposed containers cool. Vapors can flow along surfaces to distant ignition source and flash back. Vapor explosion hazard exists indoors, outdoors, or in sewers.

6. Accidental Release Measures

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! If a leak or spill has not ignited, use water spray to disperse the vapors, to protect personnel attempting to stop leak, and to flush spills away from exposures. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

J. T. Baker SOLUSORB® solvent adsorbent is recommended for spills of this product.

7. Handling and Storage

Protect against physical damage. Store in a cool, dry well-ventilated location, away from direct sunlight and any area where the fire hazard may be acute. Store in tightly closed containers (preferably under nitrogen atmosphere). Outside or detached storage is preferred. Inside storage should be in a standard flammable liquids storage room or cabinet. Separate from oxidizing materials. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

N-Hexane [110-54-3]:

-OSHA Permissible Exposure Limit (PEL): 500 ppm (TWA)

-ACGIH Threshold Limit Value (TLV): 50 ppm (TWA), Skin
other isomers of hexane
-ACGIH Threshold Limit Value (TLV): 500 ppm (TWA), 1000 ppm (STEL)

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded and engineering controls are not feasible, wear a supplied air, full-facepiece respirator, airlined hood, or full-facepiece self-contained breathing apparatus. Breathing air quality must meet the requirements of the OSHA respiratory protection standard (29CFR1910.134).

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

Clear, colorless liquid.

Odor:

Light odor.

Solubility:

Insoluble in water.

Specific Gravity:

0.66

pH:

No information found.

% Volatiles by volume @ 21C (70F):

100

Boiling Point:

ca. 68C (ca. 154F)

Melting Point:

ca. -95C (ca. -139F)

Vapor Density (Air=1):

3.0

Vapor Pressure (mm Hg):

130 @ 20C (68F)

Evaporation Rate (BuAc=1):

9

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage. Heat will contribute to instability.

Hazardous Decomposition Products:

May produce acrid smoke and irritating fumes when heated to decomposition.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Strong oxidizers.

Conditions to Avoid:

Heat, flames, ignition sources and incompatibles.

11. Toxicological Information

N-Hexane: Oral rat LD50: 28710 mg/kg. Irritation eye rabbit: 10 mg mild. Investigated as a tumorigen, mutagen and reproductive effector.

-----\Cancer Lists\-----			
Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Hexane (110-54-3)	No	No	None
Methylcyclopentane (96-37-7)	No	No	None
Trace amount of Benzene (10 ppm) (071-43-2)	Yes	No	1

12. Ecological Information

Environmental Fate:

When released into the soil, this material may biodegrade to a moderate extent. When released into the soil, this material is not expected to leach into

groundwater. When released into the soil, this material is expected to quickly evaporate. When released into water, this material may biodegrade to a moderate extent. When released to water, this material is expected to quickly evaporate. When released into the water, this material is expected to have a half-life between 1 and 10 days. This material has an estimated bioconcentration factor (BCF) of less than 100. This material has a log octanol-water partition coefficient of greater than 3.0. This material is not expected to significantly bioaccumulate. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to have a half-life between 1 and 10 days.

Environmental Toxicity:

No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed in a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: HEXANES

Hazard Class: 3

UN/NA: UN1208

Packing Group: II

Information reported for product/size: 215L

International (Water, I.M.O.)

Proper Shipping Name: HEXANES

Hazard Class: 3

UN/NA: UN1208

Packing Group: II

Information reported for product/size: 215L

15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----				
Ingredient	TSCA	EC	Japan	Australia
Hexane (110-54-3)	Yes	Yes	Yes	Yes
Methylcyclopentane (96-37-7)	Yes	Yes	No	Yes
Trace amount of Benzene (10 ppm) (071-43-2)	Yes	Yes	Yes	Yes

-----\Chemical Inventory Status - Part 2\-----				
Ingredient	Korea	--Canada--		
		DSL	NDSL	Phil.
Hexane (110-54-3)	Yes	Yes	No	Yes
Methylcyclopentane (96-37-7)	Yes	Yes	No	Yes
Trace amount of Benzene (10 ppm) (071-43-2)	Yes	Yes	No	Yes

-----\Federal, State & International Regulations - Part 1\-----				
Ingredient	-SARA 302-		-----SARA 313-----	
	RQ	TPQ	List	Chemical Catg.
Hexane (110-54-3)	No	No	Yes	No
Methylcyclopentane (96-37-7)	No	No	No	No
Trace amount of Benzene (10 ppm) (071-43-2)	No	No	Yes	No

-----\Federal, State & International Regulations - Part 2\-----			
Ingredient	CERCLA	-RCRA-	
		261.33	-TSCA- 8(d)
Hexane (110-54-3)	5000	No	No
Methylcyclopentane (96-37-7)	No	No	No
Trace amount of Benzene (10 ppm) (071-43-2)	10	U019	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
 SARA 311/312: Acute: Yes Chronic: Yes Fire: Yes Pressure: No
 Reactivity: No (Mixture / Liquid)

WARNING:

THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

Australian Hazchem Code: 3[Y]E

Poison Schedule: None allocated.

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: **1** Flammability: **3** Reactivity: **0**

Label Hazard Warning:

DANGER! EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE. HARMFUL OR FATAL IF SWALLOWED. HARMFUL IF INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. AFFECTS THE CENTRAL AND PERIPHERAL NERVOUS SYSTEMS.

Label Precautions:

Keep away from heat, sparks and flame.

Keep container closed.

Use only with adequate ventilation.

Wash thoroughly after handling.

Avoid breathing vapor or mist.

Avoid contact with eyes, skin and clothing.

Label First Aid:

Aspiration hazard. If swallowed, vomiting may occur spontaneously, but DO NOT INDUCE. If vomiting occurs, keep head below hips to prevent aspiration into lungs. Never give anything by mouth to an unconscious person. Call a physician immediately. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. In all cases call a physician.

Product Use:

Laboratory Reagent.

Revision Information:

No Changes.

Disclaimer:

Mallinckrodt Baker, Inc. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy.

This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product.

Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.

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Prepared by: Environmental Health & Safety

Phone Number: (314) 654-1600 (U.S.A.)



August 12, 2011

Project 061.01307.011

Ms. Kimberly N. Tisa, PCB Coordinator
Office of Ecosystem Protection
U.S. Environmental Protection Agency, New England Region 1
5 Post Office Square, Suite 100
Boston, Massachusetts 02109-3912

RE: Updated Indoor Air and Surface Sampling Plan
Addendum No. 2—Proposed Final Risk Reduction Plan
Polychlorinated Biphenyl (PCB)-Contaminated Building Materials
1970s Building
Central Catholic High School
300 Hampshire Street
Lawrence, Massachusetts

Dear Ms. Tisa:

Ransom Environmental Consultants, Inc. (Ransom) has prepared this Updated Indoor Air and Surface Sampling Plan (the Updated Sampling Plan) describing the proposed indoor air and wipe sampling to be performed during and following the risk-based cleanup and disposal of PCB-contaminated building materials at the 1970s Building of Central Catholic High School (CCHS). Ransom prepared this updated plan in response to the conditional approval issued by the U.S. Environmental Protection Agency (U.S. EPA) dated August 5, 2011.

Abatement activities associated with PCB-contaminated building materials were completed on August 12, 2011. A summary of the completed abatement and post-abatement sampling activities will be presented in a Risk-Based Cleanup and Disposal Summary Report.

INDOOR AIR SAMPLING

Between August 12 and September 2, 2011, Ransom will collect indoor air samples from the 1970s Building as follows and consistent with prior indoor air sampling events:

1. First-floor hallway;
2. Classroom 204;
3. Library, Room 305 (two samples);

12 Kent Way, Suite 100, Byfield, Massachusetts 01950, Tel (978) 465-1822, Fax (978) 465-2986
400 Commercial Street, Suite 404, Portland, Maine 04101, Tel (207) 772-2891
Pease International Tradeport, 112 Corporate Drive, Portsmouth, New Hampshire 03801, Tel (603) 436-1490
2127 Hamilton Avenue, Hamilton, New Jersey 08619, Tel (609) 584-0090
60 Valley Street, Building F, Suite 106, Providence, Rhode Island 02909, Tel (401) 433-2160

www.ransomenv.com

Ms. Kimberly Tisa
U.S. Environmental Protection Agency

4. Second-floor hallway; and
5. Ground-floor gymnasium.

Proposed indoor air sampling locations are provided on Figures 1 through 4.

The air sampling will be performed using personal air-sampling pumps equipped with low-volume polyurethane foam (PUF) cartridges. The pumps will be set to pump at a rate of approximately 4 liters per minute, for 5 hours. Each personal sampling pump will be calibrated prior to use and the calibration checked at the completion of the air sampling. Based on the air sample flow rate and the duration of pumping, the specific volume of air pulled through each PUF cartridge will be determined. The PUF cartridges will be analyzed for PCBs by U.S. EPA Method TO-10, *Determination of PCB Congeners in Ambient Air Using Low Volume Polyurethane Foam (PUF)*.

The laboratory reporting limit for the air samples will be less than 100 nanograms per cubic meter (ng/m³).

SURFACE SAMPLING

Wipe sampling of the epoxy-encapsulated surfaces and high contact (i.e., desktops, lecterns, etc.) will be performed to confirm effectiveness of the abatement activities. The hexane-wetted wipe samples will be collected in accordance with the standard wipe test as defined by 40 CFR §761.123. A 100-square-centimeter (cm²) template will be used to delineate the area of the surface to be sampled. As a quality control (QC) measure, blind duplicate samples will be collected at a rate of one blind duplicate sample for every 10 samples (i.e., 10 percent). The confirmatory samples will be analyzed for PCBs by U.S. EPA Method 8082, with a laboratory reporting limit of 1 µg/100 cm²; each sample will be prepared for analysis utilizing the standard Soxhlet extraction method.

Wipe Sampling of Encapsulated Surfaces

Ransom proposes to collect a total of 45 wipe samples from encapsulated surfaces throughout the 1970s Building as follows:

1. Ground floor: 6 locations;
2. First floor: 13 locations;
3. Second floor: 13 locations; and
4. Third floor: 13 locations.

Proposed wipe sampling locations are provided on Figures 1 through 4.

Ms. Kimberly Tisa
U.S. Environmental Protection Agency

Wipe Sampling of High Contact Surfaces

Ransom proposes to collect a total of 14 wipe samples from high-contact surfaces throughout the 1970s Building as follows:

1. Ground floor: 2 locations;
2. First floor: 4 locations;
3. Second floor: 4 locations; and
4. Third floor: 6 locations.

Proposed wipe sampling locations are provided on Figures 1 through 4.

Should you have any questions regarding this Updated Sampling Plan, please do not hesitate to call.

Sincerely,

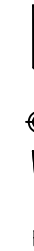
RANSOM ENVIRONMENTAL CONSULTANTS, INC.

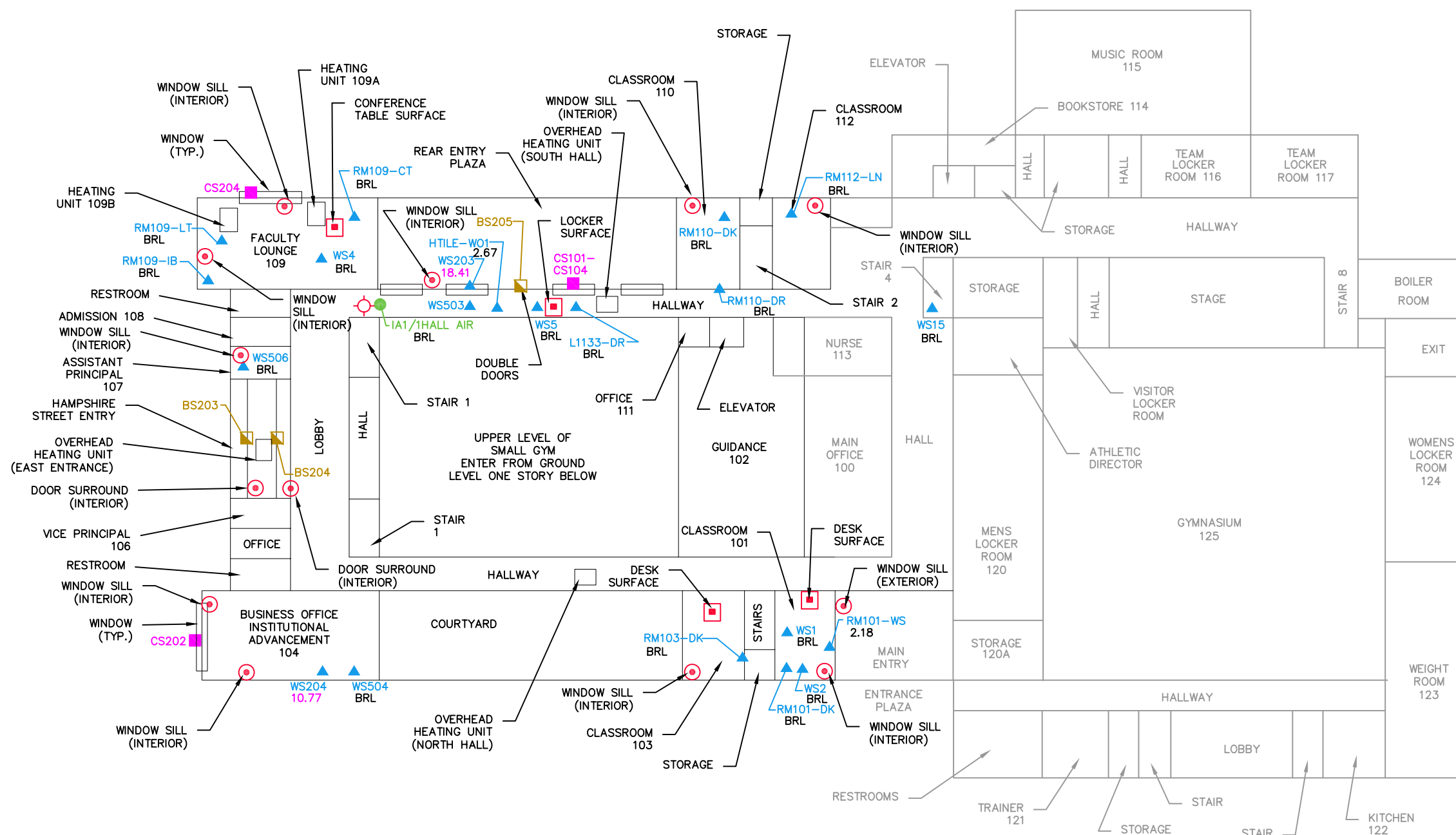


Timothy J. Snay, LSP, LEP
Vice President

TJS:sh
Attachments

cc: John Ostrowski, CCHS
Jeffrey Renton, Gilbert & Renton, LLC





LEGEND:

- PROPOSED POST-ENCAPSULATION WIPE SAMPLE
- PROPOSED POST-ABATEMENT WIPE SAMPLE (HIGH CONTACT SURFACE)
- ⊗ PROPOSED INDOOR AIR SAMPLE
- ▲ HTILE-WO1 2.67
WIPE SAMPLE WITH PCB CONCENTRATION IN MICROGRAMS/100CM²
- IA1/1HALL-AIR
INDOOR AIR SAMPLE
- BS101
BULK SAMPLE
- CS202
CONCRETE SAMPLE
- BRL
BELOW LABORATORY REPORTING LIMIT

NOTES:

- SITE PLAN BASED ON MEASUREMENTS AND OBSERVATIONS MADE BY RANSOM ENVIRONMENTAL CONSULTANTS, INC. IN DECEMBER 2006, AUGUST & NOVEMBER 2007, JULY 2008 AND SEPTEMBER 2009.
- SOME FEATURES ARE APPROXIMATE IN LOCATION AND SCALE.

RANSOM

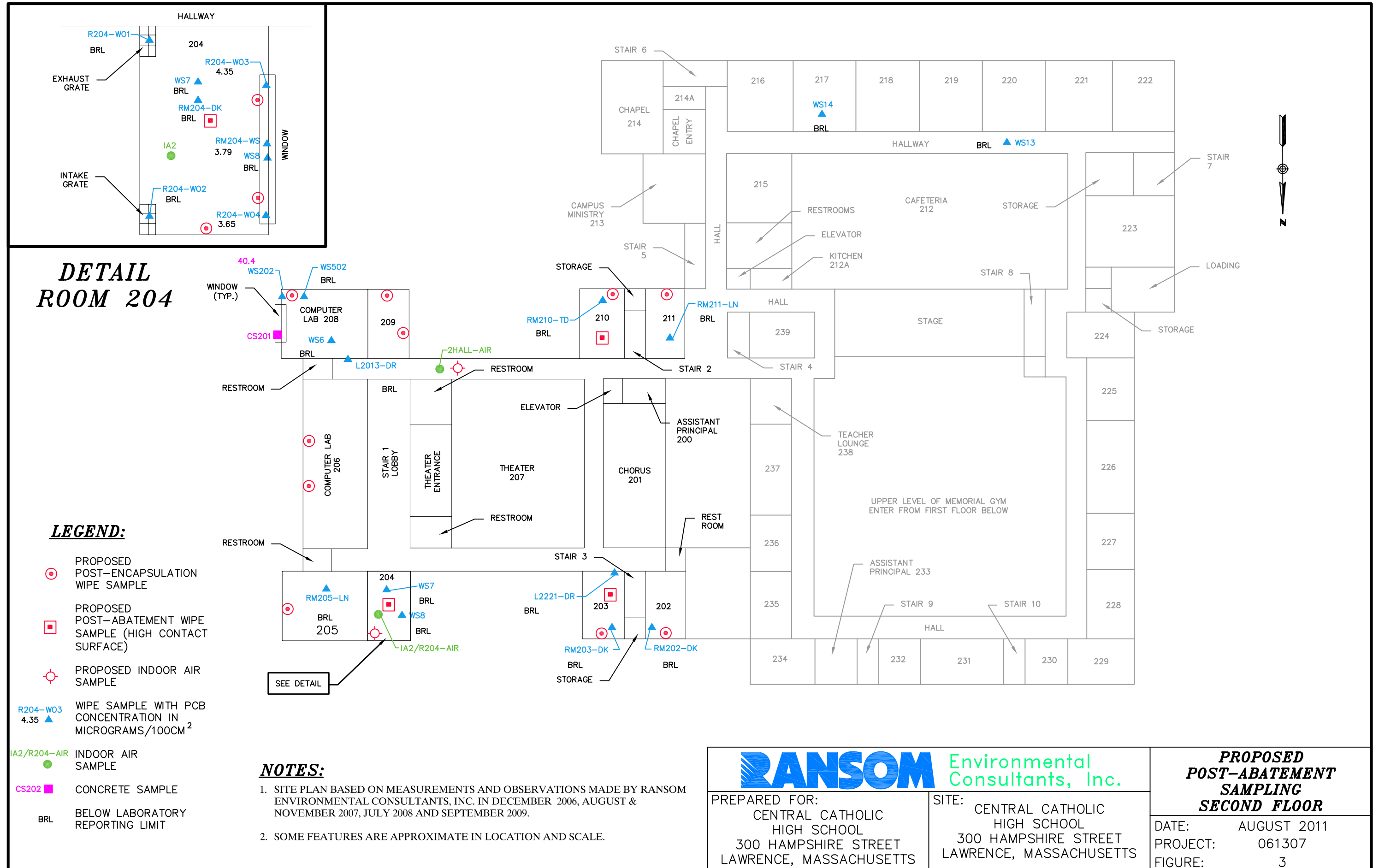
Environmental
Consultants, Inc.

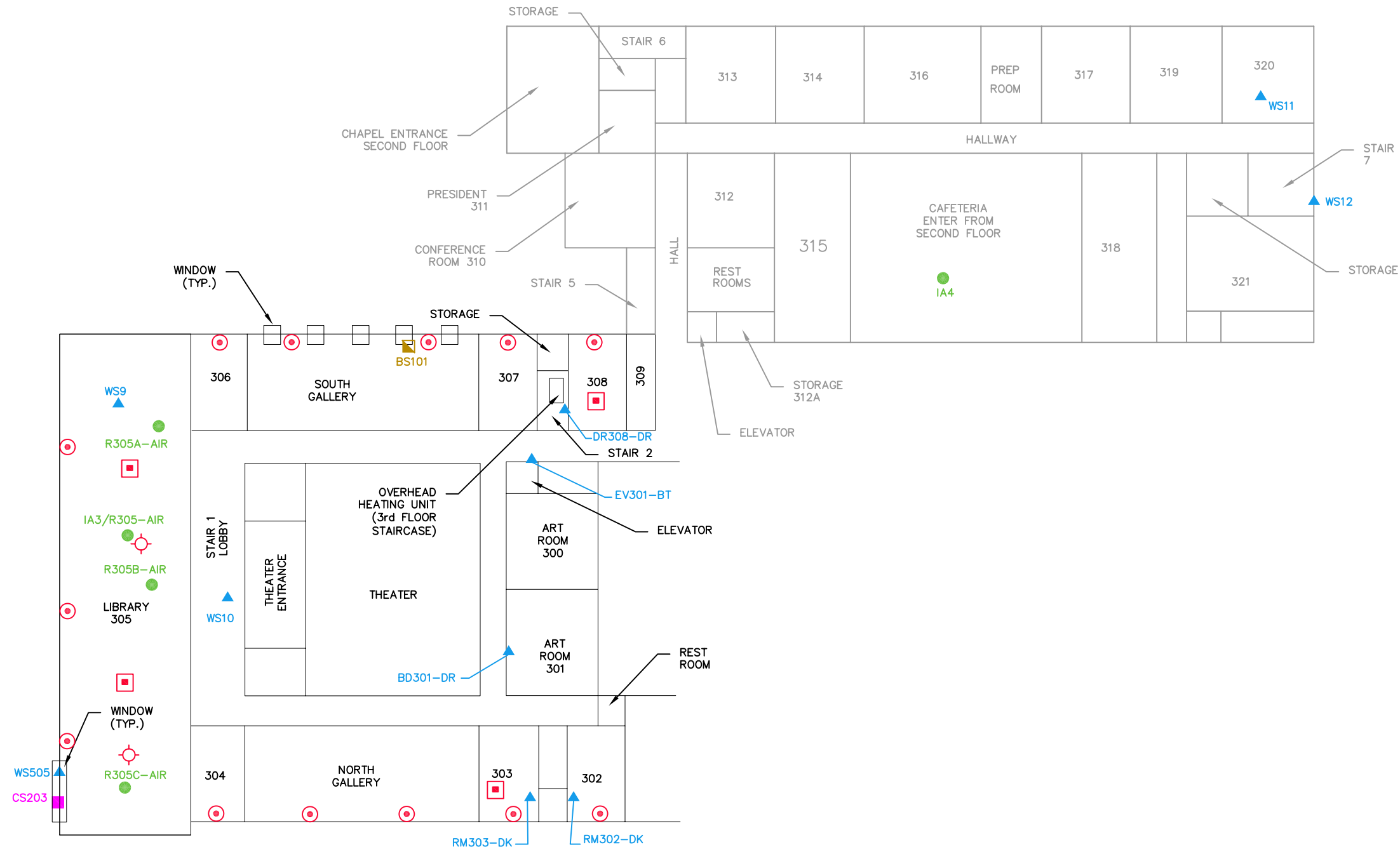
PREPARED FOR:
CENTRAL CATHOLIC
HIGH SCHOOL
300 HAMPSHIRE STREET
LAWRENCE, MASSACHUSETTS

SITE: CENTRAL CATHOLIC
HIGH SCHOOL
300 HAMPSHIRE STREET
LAWRENCE, MASSACHUSETTS

**PROPOSED
POST-ABATEMENT
SAMPLING
FIRST FLOOR**

DATE: AUGUST 2011
PROJECT: 061307
FIGURE: 2





LEGEND:

- PROPOSED POST-ENCAPSULATION WIPE SAMPLE
- PROPOSED POST-ABATEMENT WIPE SAMPLE (HIGH CONTACT SURFACE)
- ⊗ PROPOSED INDOOR AIR SAMPLE
- ▲ BRL WS9 WIPE SAMPLE WITH PCB CONCENTRATION IN MICROGRAMS/100CM²
- IA3/R305-AIR INDOOR AIR SAMPLE
- CS202 CONCRETE SAMPLE
- BS101 BULK SAMPLE
- BRL BELOW LABORATORY REPORTING LIMIT

NOTES:

- SITE PLAN BASED ON MEASUREMENTS AND OBSERVATIONS MADE BY RANSOM ENVIRONMENTAL CONSULTANTS, INC. IN DECEMBER 2006, AUGUST & NOVEMBER 2007, JULY 2008 AND SEPTEMBER 2009.
- SOME FEATURES ARE APPROXIMATE IN LOCATION AND SCALE.

RANSOM Environmental Consultants, Inc.

PREPARED FOR:
CENTRAL CATHOLIC
HIGH SCHOOL
300 HAMPSHIRE STREET
LAWRENCE, MASSACHUSETTS

SITE: CENTRAL CATHOLIC
HIGH SCHOOL
300 HAMPSHIRE STREET
LAWRENCE, MASSACHUSETTS

PROPOSED POST ABATEMENT SAMPLING THIRD FLOOR

DATE: AUGUST 2011
PROJECT: 061307
FIGURE: 4

ATTACHMENT C

Photograph Log

Final Completion Report, Submitted Pursuant to the PCB Risk-Based Approval Under 40 CFR §§
761.61(c) and 761.79(h) of the U.S. EPA dated August 5, 2011

Central Catholic High School
300 Hampshire Street
Lawrence, Massachusetts

Photograph Log



A view of the concrete building panels on the third floor of the 1970s Building after the caulking was removed.



A view of the concrete building panels on the third floor of the 1970s Building after first layer of epoxy encapsulation.



A view of the concrete building panels on the third floor of the 1970s Building after first layer of epoxy encapsulation.



A view of the library detailing.



A view of the interior sill during encapsulation.



A view of the exterior window casing during encapsulation.

ATTACHMENT D

Copy of Waste Disposal Documentation

Final Completion Report, Submitted Pursuant to the PCB Risk-Based Approval Under 40 CFR §§
761.61(c) and 761.79(h) of the U.S. EPA dated August 5, 2011

Central Catholic High School
300 Hampshire Street
Lawrence, Massachusetts

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number MP9786820260		2. Page 1 of		3. Emergency Response Phone 1-800-OKTANK		4. Manifest Tracking Number 006575015 JJK			
		5. Generator's Name and Mailing Address Central Catholic High School 300 Hampshire St Lawrence, MA 01841		Generator's Site Address (if different than mailing address) SAME							
6. Transporter 1 Company Name Mill City Environmental		U.S. EPA ID Number MAD300008109									
7. Transporter 2 Company Name		U.S. EPA ID Number									
8. Designated Facility Name and Site Address General Chemical 133 Leland St Framingham, MA 01702		U.S. EPA ID Number MAD019371079									
Facility's Phone: 508-878-5000											
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))				10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes	
						No.	Type				
	1.	Non-RCRA Non-DOT Material 91095				1	DF	3	P	MA99	
	2.										
	3.										
	4.										
14. Special Handling Instructions and Additional Information PCBs < 50 WC# 66790											
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.											
Generator's/Officer's Printed/Typed Name Agent for Julie T Davies											
Signature Julie T Davies											
Month Day Year 12 05 11											
INT'L	16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____										
	Transporter signature (for exports only): _____										
TRANSPORTER	17. Transporter Acknowledgment of Receipt of Materials										
	Transporter 1 Printed/Typed Name Brian Chapman										
	Signature Brian Chapman										
	Month Day Year 12 06 11										
	Transporter 2 Printed/Typed Name										
	Signature										
	Month Day Year										
DESIGNATED FACILITY	18. Discrepancy										
	18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection										
	Manifest Reference Number: _____										
	18b. Alternate Facility (or Generator) U.S. EPA ID Number										
	Facility's Phone: _____										
	18c. Signature of Alternate Facility (or Generator)										
	Month Day Year										
	19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)										
	1.	2.	3.	4.							
	20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a										
	Printed/Typed Name Todd Johnson										
	Signature Todd Johnson										
	Month Day Year 12 06 11										

ATTACHMENT E

Copies of Laboratory Chemical Analysis Data Reports (on CD-ROM)

Final Completion Report, Submitted Pursuant to the PCB Risk-Based Approval Under 40 CFR §§
761.61(c) and 761.79(h) of the U.S. EPA dated August 5, 2011

Central Catholic High School
300 Hampshire Street
Lawrence, Massachusetts



LABORATORY REPORT CHECKLIST

Laboratory: Alkha Analytical
Site: Central Catholic H.S., Lawrence Lab Job No.: L1112427
Report Reviewed by: Tim Shay Date Reviewed: 9/6/11
Sample Description: Indoor Air Samples

Sample Integrity

- ☒ Custody Seal Absent
- ☒ Temperature 5.8 °C
- ☒ Preservation cool
- ☒ Containers
- ☒ Holding time
- ☒ Date and time of collection
- ☒ Field identification accurate
- ☐ Filtration, any field manipulation noted N/A
- ☐ Separate phase, matrix notes N/A

Laboratory Information

- ☒ Current certification (if applicable)
- ☒ Name and address
- ☒ Signed by Lab Director or designee
- ☒ Lab ID No.
- ☐ Certification Statement (EPH/VPH) N/A

Chain of Custody

- ☒ Relinquish and receipt signatures, dates, and times
- ☐ No gaps in custody - ①
- ☒ Name of person collecting sample initials

Laboratory Report

- ☒ Method Reference
- Sample preparation
- Analysis method
- Modifications to method
- ☒ Units (solids on a dry weight basis)
- ☒ Reporting limits
- ☒ Analyst
- ☐ Date of analysis
- ☒ Date of preparation, if applicable
- ☒ Dilution factors
- ☐ % Moisture for solid samples N/A
- ☒ Target analytes correct
- ☒ Matrix REF
- ☒ Lab report and/or sample ID#

Quality Assurance/Quality Control

- ☒ Any findings notes, explained well, data impact clear
- ☒ Method blank less than detection limit or not greater than 10% of lowest detected sample
- ☒ Surrogates, every sample, in control or discussed ②
- ☒ Matrix Spike/Matrix Spike Duplicate/Duplicate in control or discussed LCS/LCSD

Comments: ① Error in final sample A11-17 time 16:30 vs 7:35 pm (1935 hrs)
② surrogate recoveries for sample 1A1-R305 was below acceptance criteria, data could be biased low.



ANALYTICAL REPORT

Lab Number:	L1112427
Client:	Ransom Environmental 12 Kent Way Suite 100 Byfield, MA 01922-1221
ATTN:	Tim Snay
Phone:	(978) 465-1822
Project Name:	CCHS
Project Number:	061.01307.011
Report Date:	09/02/11

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1112427-01	IA1-R305-081211	LAWRENCE, MA	08/12/11 12:42
L1112427-02	IA2-R305-081211	LAWRENCE, MA	08/12/11 12:53

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

PCB Homologs

The surrogate recoveries for L1112427-01 were outside the acceptance criteria for CL3-BZ#19-C13 (43%) and CL8-BZ#202-C13 (41%); however, re-extraction could not be performed due to the sample matrix. The sample was re-analyzed for confirmation, and the results of the original analysis are reported; however, all associated compounds are considered to have a potential bias.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Peter Henriksen

Title: Technical Director/Representative

Date: 09/02/11

ORGANICS

PCBS

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

SAMPLE RESULTS

Lab ID: L1112427-01
Client ID: IA1-R305-081211
Sample Location: LAWRENCE, MA
Matrix: Air Cartridge
Analytical Method: 105,680/8270C-SIM(M)
Analytical Date: 08/27/11 07:45
Analyst: JS

Date Collected: 08/12/11 12:42
Date Received: 08/12/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/19/11 15:38

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
CI1-BZ#1	5.15		ng/cart	5.00	--	1
CI1-BZ#2	ND		ng/cart	5.00	--	1
CL1-BZ#3	ND		ng/cart	5.00	--	1
CI2-BZ#4/#10	38.4		ng/cart	10.0	--	1
CI2-BZ#9	8.21		ng/cart	5.00	--	1
CI2-BZ#7	ND		ng/cart	5.00	--	1
CI2-BZ#6	18.9		ng/cart	5.00	--	1
CI2-BZ#5	ND		ng/cart	5.00	--	1
CI2-BZ#8	80.3		ng/cart	5.00	--	1
CI3-BZ#19	12.3		ng/cart	5.00	--	1
CI2-BZ#14	ND		ng/cart	5.00	--	1
CI3-BZ#30	ND		ng/cart	5.00	--	1
CI3-BZ#18	76.8		ng/cart	5.00	--	1
CI2-BZ#11	ND		ng/cart	5.00	--	1
CI3-BZ#17	28.5		ng/cart	5.00	--	1
CI2-BZ#12	ND		ng/cart	5.00	--	1
CI3-BZ#27	ND		ng/cart	5.00	--	1
CI2-BZ#13	ND		ng/cart	5.00	--	1
CI3-BZ#24	ND		ng/cart	5.00	--	1
CI3-BZ#16	25.6		ng/cart	5.00	--	1
CI3-BZ#32	12.8		ng/cart	5.00	--	1
CI2-BZ#15	10.4		ng/cart	5.00	--	1
CI3-BZ#34	ND		ng/cart	5.00	--	1
CI3-BZ#23	ND		ng/cart	5.00	--	1
CI4-BZ#54	ND		ng/cart	5.00	--	1
CI3-BZ#29	ND		ng/cart	5.00	--	1
CI4-BZ#50	ND		ng/cart	5.00	--	1
CI3-BZ#26	ND		ng/cart	5.00	--	1
CI3-BZ#25	ND		ng/cart	5.00	--	1
CI4-BZ#53	ND		ng/cart	5.00	--	1
CI3-BZ#-31	21.2		ng/cart	5.00	--	1

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

SAMPLE RESULTS

Lab ID: L1112427-01
Client ID: IA1-R305-081211
Sample Location: LAWRENCE, MA

Date Collected: 08/12/11 12:42
Date Received: 08/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl3-BZ#28	23.7		ng/cart	5.00	--	1
Cl3-BZ#33	12.9		ng/cart	5.00	--	1
Cl4-BZ#51	ND		ng/cart	5.00	--	1
Cl3-BZ#21/#20	ND		ng/cart	10.0	--	1
Cl4-BZ#45	ND		ng/cart	5.00	--	1
Cl3-BZ#22	7.13		ng/cart	5.00	--	1
Cl4-BZ#73/#46	ND		ng/cart	10.0	--	1
Cl4-BZ#69	ND		ng/cart	5.00	--	1
Cl4-BZ#43	ND		ng/cart	5.00	--	1
Cl3-BZ#36	ND		ng/cart	5.00	--	1
Cl4-BZ#52	15.3		ng/cart	5.00	--	1
Cl4-BZ#48	ND		ng/cart	5.00	--	1
Cl4-BZ#49	5.86		ng/cart	5.00	--	1
Cl5-BZ#104	ND		ng/cart	5.00	--	1
Cl4-BZ#47	ND		ng/cart	5.00	--	1
Cl4-BZ#65/#75/#62	ND		ng/cart	15.0	--	1
Cl3-BZ#39	ND		ng/cart	5.00	--	1
Cl3-BZ#38	ND		ng/cart	5.00	--	1
Cl4-BZ#44	7.87		ng/cart	5.00	--	1
Cl4-BZ#59	ND		ng/cart	5.00	--	1
Cl4-BZ#42	ND		ng/cart	5.00	--	1
Cl4-BZ#71	ND		ng/cart	5.00	--	1
Cl3-BZ#35	ND		ng/cart	5.00	--	1
Cl4-BZ#41	ND		ng/cart	5.00	--	1
Cl4-BZ#72	ND		ng/cart	5.00	--	1
Cl5-BZ#96	ND		ng/cart	5.00	--	1
Cl5-BZ#103	ND		ng/cart	5.00	--	1
Cl4-BZ#68/#64	ND		ng/cart	10.0	--	1
Cl4-BZ#40	ND		ng/cart	5.00	--	1
Cl3-BZ#37	ND		ng/cart	5.00	--	1
Cl5-BZ#100	ND		ng/cart	5.00	--	1
Cl5-BZ#94	ND		ng/cart	5.00	--	1
Cl4-BZ#57	ND		ng/cart	5.00	--	1
Cl4-BZ#67/#58	ND		ng/cart	10.0	--	1
Cl5-BZ#102	ND		ng/cart	5.00	--	1
Cl4-BZ#61	ND		ng/cart	5.00	--	1
Cl5-BZ#98	ND		ng/cart	5.00	--	1
Cl4-BZ#76	ND		ng/cart	5.00	--	1
Cl5-BZ#93	ND		ng/cart	5.00	--	1

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

SAMPLE RESULTS

Lab ID: L1112427-01
Client ID: IA1-R305-081211
Sample Location: LAWRENCE, MA

Date Collected: 08/12/11 12:42
Date Received: 08/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl4-BZ#63	ND		ng/cart	5.00	--	1
Cl5-BZ#121/#95/#88	ND		ng/cart	15.0	--	1
Cl4-BZ#74	ND		ng/cart	5.00	--	1
Cl6-BZ#155	ND		ng/cart	5.00	--	1
Cl4-BZ#70	ND		ng/cart	5.00	--	1
Cl5-BZ#91	ND		ng/cart	5.00	--	1
Cl4-BZ#66	ND		ng/cart	5.00	--	1
Cl4-BZ#80	ND		ng/cart	5.00	--	1
Cl4-BZ#55	ND		ng/cart	5.00	--	1
Cl5-BZ#92	ND		ng/cart	5.00	--	1
Cl5-BZ#89/#84	ND		ng/cart	10.0	--	1
Cl5-BZ#101/#90	ND		ng/cart	10.0	--	1
Cl4-BZ#56	ND		ng/cart	5.00	--	1
Cl5-BZ#113	ND		ng/cart	5.00	--	1
Cl5-BZ#99	ND		ng/cart	5.00	--	1
Cl6-BZ#150	ND		ng/cart	5.00	--	1
Cl4-BZ#60	ND		ng/cart	5.00	--	1
Cl6-BZ#152	ND		ng/cart	5.00	--	1
Cl5-BZ#119	ND		ng/cart	5.00	--	1
Cl5-BZ#83/#125/#112	ND		ng/cart	15.0	--	1
Cl5-BZ#86/#109	ND		ng/cart	10.0	--	1
Cl5-BZ#97	ND		ng/cart	5.00	--	1
Cl5-BZ#116	ND		ng/cart	5.00	--	1
Cl5-BZ#87/#111	ND		ng/cart	10.0	--	1
Cl6-BZ#145	ND		ng/cart	5.00	--	1
Cl6-BZ#148	ND		ng/cart	5.00	--	1
Cl4-BZ#79	ND		ng/cart	5.00	--	1
Cl6-BZ#154	ND		ng/cart	5.00	--	1
Cl4-BZ#78	ND		ng/cart	5.00	--	1
Cl6-BZ#136	ND		ng/cart	5.00	--	1
Cl5-BZ#117	ND		ng/cart	5.00	--	1
Cl5-BZ#115	ND		ng/cart	5.00	--	1
Cl5-BZ#85	ND		ng/cart	5.00	--	1
Cl5-BZ#120	ND		ng/cart	5.00	--	1
Cl5-BZ#110	ND		ng/cart	5.00	--	1
Cl4-BZ#81	ND		ng/cart	5.00	--	1
Cl6-BZ#151	ND		ng/cart	5.00	--	1
Cl6-BZ#135	ND		ng/cart	5.00	--	1
Cl5-BZ#82	ND		ng/cart	5.00	--	1



Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

SAMPLE RESULTS

Lab ID: L1112427-01
Client ID: IA1-R305-081211
Sample Location: LAWRENCE, MA

Date Collected: 08/12/11 12:42
Date Received: 08/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl6-BZ#144	ND		ng/cart	5.00	--	1
Cl6-BZ#147/#149	ND		ng/cart	10.0	--	1
Cl4-BZ#77	ND		ng/cart	5.00	--	1
Cl6-BZ#143/#139	ND		ng/cart	10.0	--	1
Cl5-BZ#124	ND		ng/cart	5.00	--	1
Cl6-BZ#140	ND		ng/cart	5.00	--	1
Cl5-BZ#108	ND		ng/cart	5.00	--	1
Cl5-BZ#107/#123	ND		ng/cart	10.0	--	1
Cl7-BZ#188	ND		ng/cart	5.00	--	1
Cl6-BZ#134	ND		ng/cart	5.00	--	1
Cl5-BZ#106	ND		ng/cart	5.00	--	1
Cl6-BZ#133	ND		ng/cart	5.00	--	1
Cl6-BZ#142	ND		ng/cart	5.00	--	1
Cl5-BZ#118	ND		ng/cart	5.00	--	1
Cl6-BZ#131	ND		ng/cart	5.00	--	1
Cl7-BZ#184	ND		ng/cart	5.00	--	1
Cl6-BZ#165	ND		ng/cart	5.00	--	1
Cl6-BZ#146	ND		ng/cart	5.00	--	1
Cl6-BZ#161	ND		ng/cart	5.00	--	1
Cl5-BZ#122	ND		ng/cart	5.00	--	1
Cl6-BZ#168	ND		ng/cart	5.00	--	1
Cl5-BZ#114	ND		ng/cart	5.00	--	1
Cl6-BZ#153	ND		ng/cart	5.00	--	1
Cl6-BZ#132	ND		ng/cart	5.00	--	1
Cl7-BZ#179	ND		ng/cart	5.00	--	1
Cl6-BZ#141	ND		ng/cart	5.00	--	1
Cl7-BZ#176	ND		ng/cart	5.00	--	1
Cl5-BZ#105	ND		ng/cart	5.00	--	1
Cl6-BZ#137	ND		ng/cart	5.00	--	1
Cl5-BZ#127	ND		ng/cart	5.00	--	1
Cl7-BZ#186	ND		ng/cart	5.00	--	1
Cl6-BZ#130/#164	ND		ng/cart	10.0	--	1
Cl7-BZ#178	ND		ng/cart	5.00	--	1
Cl6-BZ#138	ND		ng/cart	5.00	--	1
Cl6-BZ#163/#160	ND		ng/cart	10.0	--	1
Cl6-BZ#129/#158	ND		ng/cart	10.0	--	1
Cl7-BZ#182/#175	ND		ng/cart	10.0	--	1
Cl7-BZ#187	ND		ng/cart	5.00	--	1
Cl7-BZ#183	ND		ng/cart	5.00	--	1

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

SAMPLE RESULTS

Lab ID: L1112427-01
Client ID: IA1-R305-081211
Sample Location: LAWRENCE, MA

Date Collected: 08/12/11 12:42
Date Received: 08/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl6-BZ#166	ND		ng/cart	5.00	--	1
Cl6-BZ#159	ND		ng/cart	5.00	--	1
Cl5-BZ#126	ND		ng/cart	5.00	--	1
Cl7-BZ#185	ND		ng/cart	5.00	--	1
Cl6-BZ#162	ND		ng/cart	5.00	--	1
Cl7-BZ#174	ND		ng/cart	5.00	--	1
Cl6-BZ#128	ND		ng/cart	5.00	--	1
Cl6-BZ#167	ND		ng/cart	5.00	--	1
Cl8-BZ#202	ND		ng/cart	5.00	--	1
Cl7-BZ#181	ND		ng/cart	5.00	--	1
Cl7-BZ#177	ND		ng/cart	5.00	--	1
Cl8-BZ#204/#200-CAL	ND		ng/cart	10.0	--	1
Cl7-BZ#171	ND		ng/cart	5.00	--	1
Cl7-BZ#173	ND		ng/cart	5.00	--	1
Cl8-BZ#197	ND		ng/cart	5.00	--	1
Cl7-BZ#172	ND		ng/cart	5.00	--	1
Cl7-BZ#192	ND		ng/cart	5.00	--	1
Cl6-BZ#156	ND		ng/cart	5.00	--	1
Cl6-BZ#157	ND		ng/cart	5.00	--	1
Cl7-BZ#180	ND		ng/cart	5.00	--	1
Cl7-BZ#193	ND		ng/cart	5.00	--	1
Cl8-BZ#199	ND		ng/cart	5.00	--	1
Cl7-BZ#191	ND		ng/cart	5.00	--	1
Cl8-BZ#198	ND		ng/cart	5.00	--	1
Cl8-BZ#201	ND		ng/cart	5.00	--	1
Cl7-BZ#170	ND		ng/cart	5.00	--	1
Cl7-BZ#190	ND		ng/cart	5.00	--	1
Cl8-BZ#196	ND		ng/cart	5.00	--	1
Cl8-BZ#203	ND		ng/cart	5.00	--	1
Cl6-BZ#169	ND		ng/cart	5.00	--	1
Cl9-BZ#208	ND		ng/cart	5.00	--	1
Cl9-BZ#207	ND		ng/cart	5.00	--	1
Cl7-BZ#189	ND		ng/cart	5.00	--	1
Cl8-BZ#195	ND		ng/cart	5.00	--	1
Cl8-BZ#194	ND		ng/cart	5.00	--	1
Cl8-BZ#205	ND		ng/cart	5.00	--	1
Cl9-BZ#206	ND		ng/cart	5.00	--	1
Cl10-BZ#209	ND		ng/cart	5.00	--	1
Monochlorobiphenyls	8.11		ng/cart	5.00	--	1



Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

SAMPLE RESULTS

Lab ID: L1112427-01
Client ID: IA1-R305-081211
Sample Location: LAWRENCE, MA

Date Collected: 08/12/11 12:42
Date Received: 08/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Dichlorobiphenyls	160		ng/cart	5.00	--	1
Trichlorobiphenyls	230		ng/cart	5.00	--	1
Tetrachlorobiphenyls	38.8		ng/cart	5.00	--	1
Pentachlorobiphenyls	12.0		ng/cart	5.00	--	1
Hexachlorobiphenyls	ND		ng/cart	5.00	--	1
Heptachlorobiphenyls	ND		ng/cart	5.00	--	1
Octachlorobiphenyls	ND		ng/cart	5.00	--	1
Nonachlorobiphenyls	ND		ng/cart	5.00	--	1
Decachlorobiphenyl	ND		ng/cart	5.00	--	1
Total Homologs	448		ng/cart	5.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	43	Q	50-125
Cl8-BZ#202-C13	41	Q	50-125

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

SAMPLE RESULTS

Lab ID: L1112427-02
 Client ID: IA2-R305-081211
 Sample Location: LAWRENCE, MA
 Matrix: Air Cartridge
 Analytical Method: 105,680/8270C-SIM(M)
 Analytical Date: 08/27/11 08:52
 Analyst: JS

Date Collected: 08/12/11 12:53
 Date Received: 08/12/11
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 08/19/11 15:38

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
CI1-BZ#1	6.38		ng/cart	5.00	--	1
CI1-BZ#2	ND		ng/cart	5.00	--	1
CL1-BZ#3	ND		ng/cart	5.00	--	1
CI2-BZ#4/#10	51.4		ng/cart	10.0	--	1
CI2-BZ#9	10.5		ng/cart	5.00	--	1
CI2-BZ#7	ND		ng/cart	5.00	--	1
CI2-BZ#6	23.1		ng/cart	5.00	--	1
CI2-BZ#5	ND		ng/cart	5.00	--	1
CI2-BZ#8	98.0		ng/cart	5.00	--	1
CI3-BZ#19	14.4		ng/cart	5.00	--	1
CI2-BZ#14	ND		ng/cart	5.00	--	1
CI3-BZ#30	ND		ng/cart	5.00	--	1
CI3-BZ#18	89.7		ng/cart	5.00	--	1
CI2-BZ#11	ND		ng/cart	5.00	--	1
CI3-BZ#17	31.4		ng/cart	5.00	--	1
CI2-BZ#12	ND		ng/cart	5.00	--	1
CI3-BZ#27	ND		ng/cart	5.00	--	1
CI2-BZ#13	ND		ng/cart	5.00	--	1
CI3-BZ#24	ND		ng/cart	5.00	--	1
CI3-BZ#16	29.8		ng/cart	5.00	--	1
CI3-BZ#32	14.8		ng/cart	5.00	--	1
CI2-BZ#15	11.8		ng/cart	5.00	--	1
CI3-BZ#34	ND		ng/cart	5.00	--	1
CI3-BZ#23	ND		ng/cart	5.00	--	1
CI4-BZ#54	ND		ng/cart	5.00	--	1
CI3-BZ#29	ND		ng/cart	5.00	--	1
CI4-BZ#50	ND		ng/cart	5.00	--	1
CI3-BZ#26	5.02		ng/cart	5.00	--	1
CI3-BZ#25	ND		ng/cart	5.00	--	1
CI4-BZ#53	ND		ng/cart	5.00	--	1
CI3-BZ#-31	25.0		ng/cart	5.00	--	1

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

SAMPLE RESULTS

Lab ID: L1112427-02
Client ID: IA2-R305-081211
Sample Location: LAWRENCE, MA

Date Collected: 08/12/11 12:53
Date Received: 08/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl3-BZ#28	26.9		ng/cart	5.00	--	1
Cl3-BZ#33	13.7		ng/cart	5.00	--	1
Cl4-BZ#51	ND		ng/cart	5.00	--	1
Cl3-BZ#21/#20	ND		ng/cart	10.0	--	1
Cl4-BZ#45	ND		ng/cart	5.00	--	1
Cl3-BZ#22	8.28		ng/cart	5.00	--	1
Cl4-BZ#73/#46	ND		ng/cart	10.0	--	1
Cl4-BZ#69	ND		ng/cart	5.00	--	1
Cl4-BZ#43	ND		ng/cart	5.00	--	1
Cl3-BZ#36	ND		ng/cart	5.00	--	1
Cl4-BZ#52	25.5		ng/cart	5.00	--	1
Cl4-BZ#48	ND		ng/cart	5.00	--	1
Cl4-BZ#49	9.17		ng/cart	5.00	--	1
Cl5-BZ#104	ND		ng/cart	5.00	--	1
Cl4-BZ#47	ND		ng/cart	5.00	--	1
Cl4-BZ#65/#75/#62	ND		ng/cart	15.0	--	1
Cl3-BZ#39	ND		ng/cart	5.00	--	1
Cl3-BZ#38	ND		ng/cart	5.00	--	1
Cl4-BZ#44	12.8		ng/cart	5.00	--	1
Cl4-BZ#59	ND		ng/cart	5.00	--	1
Cl4-BZ#42	ND		ng/cart	5.00	--	1
Cl4-BZ#71	ND		ng/cart	5.00	--	1
Cl3-BZ#35	ND		ng/cart	5.00	--	1
Cl4-BZ#41	ND		ng/cart	5.00	--	1
Cl4-BZ#72	ND		ng/cart	5.00	--	1
Cl5-BZ#96	ND		ng/cart	5.00	--	1
Cl5-BZ#103	ND		ng/cart	5.00	--	1
Cl4-BZ#68/#64	ND		ng/cart	10.0	--	1
Cl4-BZ#40	ND		ng/cart	5.00	--	1
Cl3-BZ#37	ND		ng/cart	5.00	--	1
Cl5-BZ#100	ND		ng/cart	5.00	--	1
Cl5-BZ#94	ND		ng/cart	5.00	--	1
Cl4-BZ#57	ND		ng/cart	5.00	--	1
Cl4-BZ#67/#58	ND		ng/cart	10.0	--	1
Cl5-BZ#102	ND		ng/cart	5.00	--	1
Cl4-BZ#61	ND		ng/cart	5.00	--	1
Cl5-BZ#98	ND		ng/cart	5.00	--	1
Cl4-BZ#76	ND		ng/cart	5.00	--	1
Cl5-BZ#93	ND		ng/cart	5.00	--	1

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

SAMPLE RESULTS

Lab ID: L1112427-02
Client ID: IA2-R305-081211
Sample Location: LAWRENCE, MA

Date Collected: 08/12/11 12:53
Date Received: 08/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl4-BZ#63	ND		ng/cart	5.00	--	1
Cl5-BZ#121/#95/#88	ND		ng/cart	15.0	--	1
Cl4-BZ#74	ND		ng/cart	5.00	--	1
Cl6-BZ#155	ND		ng/cart	5.00	--	1
Cl4-BZ#70	5.53		ng/cart	5.00	--	1
Cl5-BZ#91	ND		ng/cart	5.00	--	1
Cl4-BZ#66	ND		ng/cart	5.00	--	1
Cl4-BZ#80	ND		ng/cart	5.00	--	1
Cl4-BZ#55	ND		ng/cart	5.00	--	1
Cl5-BZ#92	ND		ng/cart	5.00	--	1
Cl5-BZ#89/#84	ND		ng/cart	10.0	--	1
Cl5-BZ#101/#90	11.8		ng/cart	10.0	--	1
Cl4-BZ#56	ND		ng/cart	5.00	--	1
Cl5-BZ#113	ND		ng/cart	5.00	--	1
Cl5-BZ#99	ND		ng/cart	5.00	--	1
Cl6-BZ#150	ND		ng/cart	5.00	--	1
Cl4-BZ#60	ND		ng/cart	5.00	--	1
Cl6-BZ#152	ND		ng/cart	5.00	--	1
Cl5-BZ#119	ND		ng/cart	5.00	--	1
Cl5-BZ#83/#125/#112	ND		ng/cart	15.0	--	1
Cl5-BZ#86/#109	ND		ng/cart	10.0	--	1
Cl5-BZ#97	ND		ng/cart	5.00	--	1
Cl5-BZ#116	ND		ng/cart	5.00	--	1
Cl5-BZ#87/#111	ND		ng/cart	10.0	--	1
Cl6-BZ#145	ND		ng/cart	5.00	--	1
Cl6-BZ#148	ND		ng/cart	5.00	--	1
Cl4-BZ#79	ND		ng/cart	5.00	--	1
Cl6-BZ#154	ND		ng/cart	5.00	--	1
Cl4-BZ#78	ND		ng/cart	5.00	--	1
Cl6-BZ#136	ND		ng/cart	5.00	--	1
Cl5-BZ#117	ND		ng/cart	5.00	--	1
Cl5-BZ#115	ND		ng/cart	5.00	--	1
Cl5-BZ#85	ND		ng/cart	5.00	--	1
Cl5-BZ#120	ND		ng/cart	5.00	--	1
Cl5-BZ#110	5.69		ng/cart	5.00	--	1
Cl4-BZ#81	ND		ng/cart	5.00	--	1
Cl6-BZ#151	ND		ng/cart	5.00	--	1
Cl6-BZ#135	ND		ng/cart	5.00	--	1
Cl5-BZ#82	ND		ng/cart	5.00	--	1

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

SAMPLE RESULTS

Lab ID: L1112427-02
Client ID: IA2-R305-081211
Sample Location: LAWRENCE, MA

Date Collected: 08/12/11 12:53
Date Received: 08/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl6-BZ#144	ND		ng/cart	5.00	--	1
Cl6-BZ#147/#149	ND		ng/cart	10.0	--	1
Cl4-BZ#77	ND		ng/cart	5.00	--	1
Cl6-BZ#143/#139	ND		ng/cart	10.0	--	1
Cl5-BZ#124	ND		ng/cart	5.00	--	1
Cl6-BZ#140	ND		ng/cart	5.00	--	1
Cl5-BZ#108	ND		ng/cart	5.00	--	1
Cl5-BZ#107/#123	ND		ng/cart	10.0	--	1
Cl7-BZ#188	ND		ng/cart	5.00	--	1
Cl6-BZ#134	ND		ng/cart	5.00	--	1
Cl5-BZ#106	ND		ng/cart	5.00	--	1
Cl6-BZ#133	ND		ng/cart	5.00	--	1
Cl6-BZ#142	ND		ng/cart	5.00	--	1
Cl5-BZ#118	ND		ng/cart	5.00	--	1
Cl6-BZ#131	ND		ng/cart	5.00	--	1
Cl7-BZ#184	ND		ng/cart	5.00	--	1
Cl6-BZ#165	ND		ng/cart	5.00	--	1
Cl6-BZ#146	ND		ng/cart	5.00	--	1
Cl6-BZ#161	ND		ng/cart	5.00	--	1
Cl5-BZ#122	ND		ng/cart	5.00	--	1
Cl6-BZ#168	ND		ng/cart	5.00	--	1
Cl5-BZ#114	ND		ng/cart	5.00	--	1
Cl6-BZ#153	ND		ng/cart	5.00	--	1
Cl6-BZ#132	ND		ng/cart	5.00	--	1
Cl7-BZ#179	ND		ng/cart	5.00	--	1
Cl6-BZ#141	ND		ng/cart	5.00	--	1
Cl7-BZ#176	ND		ng/cart	5.00	--	1
Cl5-BZ#105	ND		ng/cart	5.00	--	1
Cl6-BZ#137	ND		ng/cart	5.00	--	1
Cl5-BZ#127	ND		ng/cart	5.00	--	1
Cl7-BZ#186	ND		ng/cart	5.00	--	1
Cl6-BZ#130/#164	ND		ng/cart	10.0	--	1
Cl7-BZ#178	ND		ng/cart	5.00	--	1
Cl6-BZ#138	ND		ng/cart	5.00	--	1
Cl6-BZ#163/#160	ND		ng/cart	10.0	--	1
Cl6-BZ#129/#158	ND		ng/cart	10.0	--	1
Cl7-BZ#182/#175	ND		ng/cart	10.0	--	1
Cl7-BZ#187	ND		ng/cart	5.00	--	1
Cl7-BZ#183	ND		ng/cart	5.00	--	1

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

SAMPLE RESULTS

Lab ID: L1112427-02
Client ID: IA2-R305-081211
Sample Location: LAWRENCE, MA

Date Collected: 08/12/11 12:53
Date Received: 08/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl6-BZ#166	ND		ng/cart	5.00	--	1
Cl6-BZ#159	ND		ng/cart	5.00	--	1
Cl5-BZ#126	ND		ng/cart	5.00	--	1
Cl7-BZ#185	ND		ng/cart	5.00	--	1
Cl6-BZ#162	ND		ng/cart	5.00	--	1
Cl7-BZ#174	ND		ng/cart	5.00	--	1
Cl6-BZ#128	ND		ng/cart	5.00	--	1
Cl6-BZ#167	ND		ng/cart	5.00	--	1
Cl8-BZ#202	ND		ng/cart	5.00	--	1
Cl7-BZ#181	ND		ng/cart	5.00	--	1
Cl7-BZ#177	ND		ng/cart	5.00	--	1
Cl8-BZ#204/#200-CAL	ND		ng/cart	10.0	--	1
Cl7-BZ#171	ND		ng/cart	5.00	--	1
Cl7-BZ#173	ND		ng/cart	5.00	--	1
Cl8-BZ#197	ND		ng/cart	5.00	--	1
Cl7-BZ#172	ND		ng/cart	5.00	--	1
Cl7-BZ#192	ND		ng/cart	5.00	--	1
Cl6-BZ#156	ND		ng/cart	5.00	--	1
Cl6-BZ#157	ND		ng/cart	5.00	--	1
Cl7-BZ#180	ND		ng/cart	5.00	--	1
Cl7-BZ#193	ND		ng/cart	5.00	--	1
Cl8-BZ#199	ND		ng/cart	5.00	--	1
Cl7-BZ#191	ND		ng/cart	5.00	--	1
Cl8-BZ#198	ND		ng/cart	5.00	--	1
Cl8-BZ#201	ND		ng/cart	5.00	--	1
Cl7-BZ#170	ND		ng/cart	5.00	--	1
Cl7-BZ#190	ND		ng/cart	5.00	--	1
Cl8-BZ#196	ND		ng/cart	5.00	--	1
Cl8-BZ#203	ND		ng/cart	5.00	--	1
Cl6-BZ#169	ND		ng/cart	5.00	--	1
Cl9-BZ#208	ND		ng/cart	5.00	--	1
Cl9-BZ#207	ND		ng/cart	5.00	--	1
Cl7-BZ#189	ND		ng/cart	5.00	--	1
Cl8-BZ#195	ND		ng/cart	5.00	--	1
Cl8-BZ#194	ND		ng/cart	5.00	--	1
Cl8-BZ#205	ND		ng/cart	5.00	--	1
Cl9-BZ#206	ND		ng/cart	5.00	--	1
Cl10-BZ#209	ND		ng/cart	5.00	--	1
Monochlorobiphenyls	10.4		ng/cart	5.00	--	1



Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

SAMPLE RESULTS

Lab ID: L1112427-02
Client ID: IA2-R305-081211
Sample Location: LAWRENCE, MA

Date Collected: 08/12/11 12:53
Date Received: 08/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Dichlorobiphenyls	202		ng/cart	5.00	--	1
Trichlorobiphenyls	266		ng/cart	5.00	--	1
Tetrachlorobiphenyls	73.0		ng/cart	5.00	--	1
Pentachlorobiphenyls	33.6		ng/cart	5.00	--	1
Hexachlorobiphenyls	ND		ng/cart	5.00	--	1
Heptachlorobiphenyls	ND		ng/cart	5.00	--	1
Octachlorobiphenyls	ND		ng/cart	5.00	--	1
Nonachlorobiphenyls	ND		ng/cart	5.00	--	1
Decachlorobiphenyl	ND		ng/cart	5.00	--	1
Total Homologs	585		ng/cart	5.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	72		50-125
Cl8-BZ#202-C13	70		50-125

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 105,680/8270C-SIM(M)
Analytical Date: 08/27/11 05:31
Analyst: JS

Extraction Method: EPA 3540C
Extraction Date: 08/19/11 15:38

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners/Homologs - Mansfield Lab for sample(s): 01-02 Batch: WG485551-1					
Cl1-BZ#1	ND		ng/cart	5.00	--
Cl1-BZ#2	ND		ng/cart	5.00	--
Cl1-BZ#3	ND		ng/cart	5.00	--
Cl2-BZ#4/#10	ND		ng/cart	10.0	--
Cl2-BZ#9	ND		ng/cart	5.00	--
Cl2-BZ#7	ND		ng/cart	5.00	--
Cl2-BZ#6	ND		ng/cart	5.00	--
Cl2-BZ#5	ND		ng/cart	5.00	--
Cl2-BZ#8	ND		ng/cart	5.00	--
Cl3-BZ#19	ND		ng/cart	5.00	--
Cl2-BZ#14	ND		ng/cart	5.00	--
Cl3-BZ#30	ND		ng/cart	5.00	--
Cl3-BZ#18	ND		ng/cart	5.00	--
Cl2-BZ#11	ND		ng/cart	5.00	--
Cl3-BZ#17	ND		ng/cart	5.00	--
Cl2-BZ#12	ND		ng/cart	5.00	--
Cl3-BZ#27	ND		ng/cart	5.00	--
Cl2-BZ#13	ND		ng/cart	5.00	--
Cl3-BZ#24	ND		ng/cart	5.00	--
Cl3-BZ#16	ND		ng/cart	5.00	--
Cl3-BZ#32	ND		ng/cart	5.00	--
Cl2-BZ#15	ND		ng/cart	5.00	--
Cl3-BZ#34	ND		ng/cart	5.00	--
Cl3-BZ#23	ND		ng/cart	5.00	--
Cl4-BZ#54	ND		ng/cart	5.00	--
Cl3-BZ#29	ND		ng/cart	5.00	--
Cl4-BZ#50	ND		ng/cart	5.00	--
Cl3-BZ#26	ND		ng/cart	5.00	--
Cl3-BZ#25	ND		ng/cart	5.00	--
Cl4-BZ#53	ND		ng/cart	5.00	--
Cl3-BZ#-31	ND		ng/cart	5.00	--



Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 105,680/8270C-SIM(M)
Analytical Date: 08/27/11 05:31
Analyst: JS

Extraction Method: EPA 3540C
Extraction Date: 08/19/11 15:38

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners/Homologs - Mansfield Lab for sample(s): 01-02 Batch: WG485551-1					
Cl3-BZ#28	ND		ng/cart	5.00	--
Cl3-BZ#33	ND		ng/cart	5.00	--
Cl4-BZ#51	ND		ng/cart	5.00	--
Cl3-BZ#21/#20	ND		ng/cart	10.0	--
Cl4-BZ#45	ND		ng/cart	5.00	--
Cl3-BZ#22	ND		ng/cart	5.00	--
Cl4-BZ#73/#46	ND		ng/cart	10.0	--
Cl4-BZ#69	ND		ng/cart	5.00	--
Cl4-BZ#43	ND		ng/cart	5.00	--
Cl3-BZ#36	ND		ng/cart	5.00	--
Cl4-BZ#52	ND		ng/cart	5.00	--
Cl4-BZ#48	ND		ng/cart	5.00	--
Cl4-BZ#49	ND		ng/cart	5.00	--
Cl5-BZ#104	ND		ng/cart	5.00	--
Cl4-BZ#47	ND		ng/cart	5.00	--
Cl4-BZ#65/#75/#62	ND		ng/cart	15.0	--
Cl3-BZ#39	ND		ng/cart	5.00	--
Cl3-BZ#38	ND		ng/cart	5.00	--
Cl4-BZ#44	ND		ng/cart	5.00	--
Cl4-BZ#59	ND		ng/cart	5.00	--
Cl4-BZ#42	ND		ng/cart	5.00	--
Cl4-BZ#71	ND		ng/cart	5.00	--
Cl3-BZ#35	ND		ng/cart	5.00	--
Cl4-BZ#41	ND		ng/cart	5.00	--
Cl4-BZ#72	ND		ng/cart	5.00	--
Cl5-BZ#96	ND		ng/cart	5.00	--
Cl5-BZ#103	ND		ng/cart	5.00	--
Cl4-BZ#68/#64	ND		ng/cart	10.0	--
Cl4-BZ#40	ND		ng/cart	5.00	--
Cl3-BZ#37	ND		ng/cart	5.00	--
Cl5-BZ#100	ND		ng/cart	5.00	--



Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 105,680/8270C-SIM(M)
Analytical Date: 08/27/11 05:31
Analyst: JS

Extraction Method: EPA 3540C
Extraction Date: 08/19/11 15:38

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners/Homologs - Mansfield Lab for sample(s): 01-02 Batch: WG485551-1					
Cl5-BZ#94	ND		ng/cart	5.00	--
Cl4-BZ#57	ND		ng/cart	5.00	--
Cl4-BZ#67/#58	ND		ng/cart	10.0	--
Cl5-BZ#102	ND		ng/cart	5.00	--
Cl4-BZ#61	ND		ng/cart	5.00	--
Cl5-BZ#98	ND		ng/cart	5.00	--
Cl4-BZ#76	ND		ng/cart	5.00	--
Cl5-BZ#93	ND		ng/cart	5.00	--
Cl4-BZ#63	ND		ng/cart	5.00	--
Cl5-BZ#121/#95/#88	ND		ng/cart	15.0	--
Cl4-BZ#74	ND		ng/cart	5.00	--
Cl6-BZ#155	ND		ng/cart	5.00	--
Cl4-BZ#70	ND		ng/cart	5.00	--
Cl5-BZ#91	ND		ng/cart	5.00	--
Cl4-BZ#66	ND		ng/cart	5.00	--
Cl4-BZ#80	ND		ng/cart	5.00	--
Cl4-BZ#55	ND		ng/cart	5.00	--
Cl5-BZ#92	ND		ng/cart	5.00	--
Cl5-BZ#89/#84	ND		ng/cart	10.0	--
Cl5-BZ#101/#90	ND		ng/cart	10.0	--
Cl4-BZ#56	ND		ng/cart	5.00	--
Cl5-BZ#113	ND		ng/cart	5.00	--
Cl5-BZ#99	ND		ng/cart	5.00	--
Cl6-BZ#150	ND		ng/cart	5.00	--
Cl4-BZ#60	ND		ng/cart	5.00	--
Cl6-BZ#152	ND		ng/cart	5.00	--
Cl5-BZ#119	ND		ng/cart	5.00	--
Cl5-BZ#83/#125/#112	ND		ng/cart	15.0	--
Cl5-BZ#86/#109	ND		ng/cart	10.0	--
Cl5-BZ#97	ND		ng/cart	5.00	--
Cl5-BZ#116	ND		ng/cart	5.00	--



Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 105,680/8270C-SIM(M)
Analytical Date: 08/27/11 05:31
Analyst: JS

Extraction Method: EPA 3540C
Extraction Date: 08/19/11 15:38

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners/Homologs - Mansfield Lab for sample(s): 01-02 Batch: WG485551-1					
Cl5-BZ#87/#111	ND		ng/cart	10.0	--
Cl6-BZ#145	ND		ng/cart	5.00	--
Cl6-BZ#148	ND		ng/cart	5.00	--
Cl4-BZ#79	ND		ng/cart	5.00	--
Cl6-BZ#154	ND		ng/cart	5.00	--
Cl4-BZ#78	ND		ng/cart	5.00	--
Cl6-BZ#136	ND		ng/cart	5.00	--
Cl5-BZ#117	ND		ng/cart	5.00	--
Cl5-BZ#115	ND		ng/cart	5.00	--
Cl5-BZ#85	ND		ng/cart	5.00	--
Cl5-BZ#120	ND		ng/cart	5.00	--
Cl5-BZ#110	ND		ng/cart	5.00	--
Cl4-BZ#81	ND		ng/cart	5.00	--
Cl6-BZ#151	ND		ng/cart	5.00	--
Cl6-BZ#135	ND		ng/cart	5.00	--
Cl5-BZ#82	ND		ng/cart	5.00	--
Cl6-BZ#144	ND		ng/cart	5.00	--
Cl6-BZ#147/#149	ND		ng/cart	10.0	--
Cl4-BZ#77	ND		ng/cart	5.00	--
Cl6-BZ#143/#139	ND		ng/cart	10.0	--
Cl5-BZ#124	ND		ng/cart	5.00	--
Cl6-BZ#140	ND		ng/cart	5.00	--
Cl5-BZ#108	ND		ng/cart	5.00	--
Cl5-BZ#107/#123	ND		ng/cart	10.0	--
Cl7-BZ#188	ND		ng/cart	5.00	--
Cl6-BZ#134	ND		ng/cart	5.00	--
Cl5-BZ#106	ND		ng/cart	5.00	--
Cl6-BZ#133	ND		ng/cart	5.00	--
Cl6-BZ#142	ND		ng/cart	5.00	--
Cl5-BZ#118	ND		ng/cart	5.00	--
Cl6-BZ#131	ND		ng/cart	5.00	--



Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 105,680/8270C-SIM(M)
Analytical Date: 08/27/11 05:31
Analyst: JS

Extraction Method: EPA 3540C
Extraction Date: 08/19/11 15:38

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners/Homologs - Mansfield Lab for sample(s): 01-02 Batch: WG485551-1					
Cl7-BZ#184	ND		ng/cart	5.00	--
Cl6-BZ#165	ND		ng/cart	5.00	--
Cl6-BZ#146	ND		ng/cart	5.00	--
Cl6-BZ#161	ND		ng/cart	5.00	--
Cl5-BZ#122	ND		ng/cart	5.00	--
Cl6-BZ#168	ND		ng/cart	5.00	--
Cl5-BZ#114	ND		ng/cart	5.00	--
Cl6-BZ#153	ND		ng/cart	5.00	--
Cl6-BZ#132	ND		ng/cart	5.00	--
Cl7-BZ#179	ND		ng/cart	5.00	--
Cl6-BZ#141	ND		ng/cart	5.00	--
Cl7-BZ#176	ND		ng/cart	5.00	--
Cl5-BZ#105	ND		ng/cart	5.00	--
Cl6-BZ#137	ND		ng/cart	5.00	--
Cl5-BZ#127	ND		ng/cart	5.00	--
Cl7-BZ#186	ND		ng/cart	5.00	--
Cl6-BZ#130/#164	ND		ng/cart	10.0	--
Cl7-BZ#178	ND		ng/cart	5.00	--
Cl6-BZ#138	ND		ng/cart	5.00	--
Cl6-BZ#163/#160	ND		ng/cart	10.0	--
Cl6-BZ#129/#158	ND		ng/cart	10.0	--
Cl7-BZ#182/#175	ND		ng/cart	10.0	--
Cl7-BZ#187	ND		ng/cart	5.00	--
Cl7-BZ#183	ND		ng/cart	5.00	--
Cl6-BZ#166	ND		ng/cart	5.00	--
Cl6-BZ#159	ND		ng/cart	5.00	--
Cl5-BZ#126	ND		ng/cart	5.00	--
Cl7-BZ#185	ND		ng/cart	5.00	--
Cl6-BZ#162	ND		ng/cart	5.00	--
Cl7-BZ#174	ND		ng/cart	5.00	--
Cl6-BZ#128	ND		ng/cart	5.00	--



Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 105,680/8270C-SIM(M)
Analytical Date: 08/27/11 05:31
Analyst: JS

Extraction Method: EPA 3540C
Extraction Date: 08/19/11 15:38

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners/Homologs - Mansfield Lab for sample(s): 01-02 Batch: WG485551-1					
Cl6-BZ#167	ND		ng/cart	5.00	--
Cl8-BZ#202	ND		ng/cart	5.00	--
Cl7-BZ#181	ND		ng/cart	5.00	--
Cl7-BZ#177	ND		ng/cart	5.00	--
Cl8-BZ#204/#200-CAL	ND		ng/cart	10.0	--
Cl7-BZ#171	ND		ng/cart	5.00	--
Cl7-BZ#173	ND		ng/cart	5.00	--
Cl8-BZ#197	ND		ng/cart	5.00	--
Cl7-BZ#172	ND		ng/cart	5.00	--
Cl7-BZ#192	ND		ng/cart	5.00	--
Cl6-BZ#156	ND		ng/cart	5.00	--
Cl6-BZ#157	ND		ng/cart	5.00	--
Cl7-BZ#180	ND		ng/cart	5.00	--
Cl7-BZ#193	ND		ng/cart	5.00	--
Cl8-BZ#199	ND		ng/cart	5.00	--
Cl7-BZ#191	ND		ng/cart	5.00	--
Cl8-BZ#198	ND		ng/cart	5.00	--
Cl8-BZ#201	ND		ng/cart	5.00	--
Cl7-BZ#170	ND		ng/cart	5.00	--
Cl7-BZ#190	ND		ng/cart	5.00	--
Cl8-BZ#196	ND		ng/cart	5.00	--
Cl8-BZ#203	ND		ng/cart	5.00	--
Cl6-BZ#169	ND		ng/cart	5.00	--
Cl9-BZ#208	ND		ng/cart	5.00	--
Cl9-BZ#207	ND		ng/cart	5.00	--
Cl7-BZ#189	ND		ng/cart	5.00	--
Cl8-BZ#195	ND		ng/cart	5.00	--
Cl8-BZ#194	ND		ng/cart	5.00	--
Cl8-BZ#205	ND		ng/cart	5.00	--
Cl9-BZ#206	ND		ng/cart	5.00	--
Cl10-BZ#209	ND		ng/cart	5.00	--



Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 105,680/8270C-SIM(M)
Analytical Date: 08/27/11 05:31
Analyst: JS

Extraction Method: EPA 3540C
Extraction Date: 08/19/11 15:38

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners/Homologs - Mansfield Lab for sample(s): 01-02 Batch: WG485551-1					
Monochlorobiphenyls	ND		ng/cart	5.00	--
Dichlorobiphenyls	ND		ng/cart	5.00	--
Trichlorobiphenyls	ND		ng/cart	5.00	--
Tetrachlorobiphenyls	ND		ng/cart	5.00	--
Pentachlorobiphenyls	ND		ng/cart	5.00	--
Hexachlorobiphenyls	ND		ng/cart	5.00	--
Heptachlorobiphenyls	ND		ng/cart	5.00	--
Octachlorobiphenyls	ND		ng/cart	5.00	--
Nonachlorobiphenyls	ND		ng/cart	5.00	--
Decachlorobiphenyl	ND		ng/cart	5.00	--
Total Homologs	ND		ng/cart	5.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	71		50-125
Cl8-BZ#202-C13	66		50-125

Lab Control Sample Analysis

Batch Quality Control

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners/Homologs - Mansfield Lab Associated sample(s): 01-02 Batch: WG485551-2								
Cl1-BZ#1	113		-		40-140	-		30
CL1-BZ#3	104		-		40-140	-		30
Cl2-BZ#4/#10	118		-		40-140	-		30
Cl2-BZ#8	104		-		40-140	-		30
Cl3-BZ#19	105		-		40-140	-		30
Cl3-BZ#18	108		-		40-140	-		30
Cl2-BZ#15	100		-		40-140	-		30
Cl4-BZ#54	111		-		40-140	-		30
Cl3-BZ#29	101		-		40-140	-		30
Cl4-BZ#50	108		-		40-140	-		30
Cl3-BZ#-31	106		-		40-140	-		30
Cl3-BZ#28	119		-		40-140	-		30
Cl4-BZ#45	112		-		40-140	-		30
Cl4-BZ#52	113		-		40-140	-		30
Cl4-BZ#49	106		-		40-140	-		30
Cl5-BZ#104	112		-		40-140	-		30
Cl4-BZ#47	105		-		40-140	-		30
Cl4-BZ#44	123		-		40-140	-		30
Cl3-BZ#37	77		-		40-140	-		30
Cl5-BZ#121/#95/#88	98		-		40-140	-		30
Cl4-BZ#74	113		-		40-140	-		30

Lab Control Sample Analysis Batch Quality Control

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners/Homologs - Mansfield Lab Associated sample(s): 01-02 Batch: WG485551-2								
Cl6-BZ#155	114		-		40-140	-		30
Cl4-BZ#70	110		-		40-140	-		30
Cl4-BZ#66	121		-		40-140	-		30
Cl5-BZ#101/#90	122		-		40-140	-		30
Cl4-BZ#56	120		-		40-140	-		30
Cl5-BZ#99	123		-		40-140	-		30
Cl5-BZ#87/#111	98		-		40-140	-		30
Cl6-BZ#154	119		-		40-140	-		30
Cl5-BZ#110	132		-		40-140	-		30
Cl4-BZ#81	128		-		40-140	-		30
Cl6-BZ#151	97		-		40-140	-		30
Cl6-BZ#147/#149	108		-		40-140	-		30
Cl4-BZ#77	114		-		40-140	-		30
Cl5-BZ#107/#123	120		-		40-140	-		30
Cl7-BZ#188	99		-		40-140	-		30
Cl5-BZ#118	98		-		40-140	-		30
Cl6-BZ#146	105		-		40-140	-		30
Cl5-BZ#114	98		-		40-140	-		30
Cl6-BZ#153	131		-		40-140	-		30
Cl5-BZ#105	82		-		40-140	-		30
Cl6-BZ#138	97		-		40-140	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners/Homologs - Mansfield Lab Associated sample(s): 01-02 Batch: WG485551-2								
Cl6-BZ#129/#158	122		-		40-140	-		30
Cl7-BZ#187	108		-		40-140	-		30
Cl7-BZ#183	102		-		40-140	-		30
Cl5-BZ#126	78		-		40-140	-		30
Cl7-BZ#174	108		-		40-140	-		30
Cl6-BZ#128	104		-		40-140	-		30
Cl6-BZ#167	106		-		40-140	-		30
Cl8-BZ#202	115		-		40-140	-		30
Cl7-BZ#177	106		-		40-140	-		30
Cl8-BZ#204/#200-CAL	106		-		40-140	-		30
Cl6-BZ#156	98		-		40-140	-		30
Cl6-BZ#157	102		-		40-140	-		30
Cl7-BZ#180	93		-		40-140	-		30
Cl8-BZ#201	116		-		40-140	-		30
Cl7-BZ#170	103		-		40-140	-		30
Cl6-BZ#169	110		-		40-140	-		30
Cl9-BZ#208	100		-		40-140	-		30
Cl7-BZ#189	104		-		40-140	-		30
Cl8-BZ#195	106		-		40-140	-		30
Cl8-BZ#194	108		-		40-140	-		30
Cl8-BZ#205	106		-		40-140	-		30

Lab Control Sample Analysis**Batch Quality Control**

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners/Homologs - Mansfield Lab Associated sample(s): 01-02 Batch: WG485551-2								
Cl9-BZ#206	104		-		40-140	-		30
Cl10-BZ#209	104		-		40-140	-		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Cl3-BZ#19-C13	81				50-125
Cl8-BZ#202-C13	82				50-125

Project Name: CCHS**Lab Number:** L1112427**Project Number:** 061.01307.011**Report Date:** 09/02/11**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Reagent H2O Preserved Vials Frozen on: NA**Cooler Information Custody Seal****Cooler**

A

Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1112427-01A	PUF Air Cartridge - High or Low	A	N/A	5.8	Y	Absent	A2-PCB209-C/H-8270(7)
L1112427-02A	PUF Air Cartridge - High or Low	A	N/A	5.8	Y	Absent	A2-PCB209-C/H-8270(7)

*Values in parentheses indicate holding time in days



Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

GLOSSARY

Acronyms

EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- | | |
|----------|--|
| A | - Spectra identified as "Aldol Condensation Product". |
| B | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| C | - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses. |
| D | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| E | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| G | - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated. |
| H | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| I | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| M | - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte. |
| P | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| Q | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less |

Report Format: Data Usability Report



Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

Data Qualifiers

than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112427
Report Date: 09/02/11

REFERENCES

- 105 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997 in conjunction with Determination of Pesticides and PCBs in Water and Oil/Sediment by GC/MS: Method 680. EPA 01A0005295, November 1985.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certificate/Approval Program Summary

Last revised August 4, 2011 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: SM2320B, SM2540D, SM2540G.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: EPA 180.1, 245.7, 1631E, 3020, 6020A, 7470A, 9040, 9050A, SM2320B, 2540D, 2540G, 4500H-B, Organic Parameters: EPA 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 5030B, 8015D, 3570, 8081B, 8082A, 8260B, 8270C, 8270D.)

Solid & Chemical Materials (Inorganic Parameters: EPA 1311, 3050, 3051A, 3060A, 6020A, 7196A, 7470A, 7471B, 7474, 9040B, 9045C, 9060. Organic Parameters: EPA 3540C, 3570B, 3580A, 3630C, 3640A, 3660, 3665A, 5035, 8015D, 8081B, 8082A, 8260B, 8270C, 8270D.)

Biological Tissue (Inorganic Parameters: EPA 6020A. Organic Parameters: EPA 3570, 3510C, 3610B, 3630C, 3640A, 8270C, 8270D.)

Air & Emissions (EPA TO-15.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: EPA, 245.1, 245.7, 1631E, 180.1, 6020A, 7470A, 9040B, 9050A, SM2540D, 2540G, 4500H+B, 2320B. Organic Parameters: EPA 8081, 8082, 8260B, 8270C.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 1311, 1312, 3050B, 3051A, 3060A, 6020A, 7470A, 7471A, 9040B, 9045C, 7196A. Organic Parameters: SW-846 3540C, 3580, 3630C, 3640A, 3660B, 3665A, 5035, 8260B, 8270C, 8015D, 8082, 8081A.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, SM2320B, SM2540D, 2540G, , EPA 180.1, 1631E, SW-846 7470A, 9040B, 6020. Organic Parameters: SW-846 3510C, 3580A, 5030B, 5035L, 5035H, 3630C, 3640C, 3660B, 3665A, 8015B 8081A, 8082, 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9040B, 9045C, 9050A, 9060. Organic Parameters: SW-846 3540C, 3570, 3580A, 5030B, 5035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610C, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: SM2320B, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 245.7, 7470A, 9014, 9040B, 9050, 120.1, 4500CN-E, 4500H-B, EPA 376.2, 180.1, 3020A. Organic Parameters: EPA 8260B, 8270C, 8081A, 8082, 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 6020, 7196A, 3060A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 1312, 3050B, 3580, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. **NELAP Accredited via LA-DEQ.**

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. **NELAP Accredited.**

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

Air (Organic Parameters: EPA TO-15)

Washington State Department of Ecology Certificate/Lab ID: C954. *Non-Potable Water* (Inorganic Parameters: SM2540D, 2510B, EPA 120.1, 180.1, 1631E, 245.7.)

Solid & Chemical Materials (Inorganic Parameters: EPA 9040, 9060, 6020, 7470, 7471, 7474. Organic Parameters: EPA 8081, 8082, 8015 Mod, 8270, 8260.)

U.S. Army Corps of Engineers

Department of Defense Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 6020A, SM4500H-B. Organic Parameters: 3020A, 3510C, 5030B, 8260B, 8270C, 8270C-ALK-PAH, 8082, 8081A, 8015D-SHC.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 3050B, 6020A, 7471A, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580A, 3570, 3540C, 5035A, 8260B, 8270C, 8270-ALK-PAH, 8082, 8081A, 8015D-SHC, 8015-DRO.

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **8270C**: Biphenyl. **TO-15**: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 2-Methylnaphthalene, 1-Methylnaphthalene.



CHAIN OF CUSTODY

AIR ANALYSIS

PAGE 1 OF 1

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Environmental
Address: 12 Kent Way, Suite 100
Beverly, MA 01922
Phone: 978 465 1822
Fax: 978 465 2986
Email: tsnaye@ransomenv.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: CLHS
Project Location: Lawrence, MA
Project #: 061. 01307. 011
Project Manager: Tim Gray
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due:

Time:

Date Rec'd in Lab:

Report Information - Data Deliverables

☐ FAX
☒ ADEX
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☐ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

ALPHA Job #: L1112427

Billing Information

☒ Same as Client info PO #: will email
Mary Davis w/ PO number

Regulatory Requirements/Report Limits

State/Fed	Program	Criteria
<u>MA DEP</u>	<u>MCP</u>	

Other Project Specific Requirements/Comments:

TO-10 homologs and congeners, PUF PCB Low
* NO ICE on PUF Cartridges * packs
drill using freezer

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection										TO-14A	TO-15	TO-15 APH	FIXED	TO-13A	TO-41	Sample Comments (i.e. PID)
		Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller							
L1112427-1	IA1-R305-081211	8/12/11	7:38	12:42	NA	NA	AA PUF	SPB,DFM	NA	NA	NA	X					LP-260	
2	IA2-R305-081211	8/12/11	7:48	12:53	NA	NA	AA PUF	SPB,DFM	NA	NA	NA	X					LP-093	

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

PUF

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:

Date/Time

Received By:

Date/Time:



LABORATORY REPORT CHECKLIST

Laboratory: Alsha Analytical, Inc.
Site: Central Catholic H.S., Lawrence, MA Lab Job No.: L112769
Report Reviewed by: T. Shay Date Reviewed: 8/29/11
Sample Description: Wine Samples

Sample Integrity

- ☐ Custody Seal MA
- ☒ Temperature 3 °C
- ☒ Preservation
- ☒ Containers
- ☒ Holding time
- ☒ Date and time of collection
- ☒ Field identification accurate
- ☐ Filtration, any field manipulation noted N/A
- ☐ Separate phase, matrix notes MA

Laboratory Information

- ☒ Current certification (if applicable)
- ☒ Name and address
- ☒ Signed by Lab Director or designee
- ☒ Lab ID No.
- ☐ Certification Statement (EPH/VPH) N/A

Chain of Custody

- ☒ Relinquish and receipt signatures, dates, and times
- ☒ No gaps in custody
- ☒ Name of person collecting sample

Laboratory Report

- ☒ Method Reference
- Sample preparation
- Analysis method
- Modifications to method
- ☒ Units (solids on a dry weight basis)
- ☒ Reporting limits
- ☒ Analyst
- ☒ Date of analysis
- ☒ Date of preparation, if applicable
- ☒ Dilution factors
- ☐ % Moisture for solid samples MA
- ☒ Target analytes correct
- ☒ Matrix
- ☒ Lab report and/or sample ID#

Quality Assurance/Quality Control

- ☒ Any findings notes, explained well, data impact clear
- ☒ Method blank less than detection limit or not greater than 10% of lowest detected sample
- ☒ Surrogates, every sample, in control or discussed LS/LSD
- ☒ ~~Matrix Spike~~ Matrix Spike
Duplicate/Duplicate in control or discussed

Comments: LCS recovered were below acceptance criteria for Arsenic 1016/1260. Results are considered to have a potentially low bias.



ANALYTICAL REPORT

Lab Number:	L1112769
Client:	Ransom Environmental 12 Kent Way Suite 100 Byfield, MA 01922-1221
ATTN:	Tim Snay
Phone:	(978) 465-1822
Project Name:	CCHS
Project Number:	061.01307.011
Report Date:	08/26/11

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112769
Report Date: 08/26/11

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1112769-01	RM305-NWN-081711	LAWRENCE, MA	08/17/11 09:12
L1112769-02	RM305-CWN-081711	LAWRENCE, MA	08/17/11 09:16
L1112769-03	RM305-SWN-081711	LAWRENCE, MA	08/17/11 09:20
L1112769-04	RM305-SDSK-081711	LAWRENCE, MA	08/17/11 09:25
L1112769-05	RM305-CDSK-081711	LAWRENCE, MA	08/17/11 09:27
L1112769-06	NGH-WALL-081711	LAWRENCE, MA	08/17/11 09:36
L1112769-07	NGH-WWN-081711	LAWRENCE, MA	08/17/11 09:40
L1112769-08	RM303-IWN-081711	LAWRENCE, MA	08/17/11 09:45
L1112769-09	RM303-DSK-081711	LAWRENCE, MA	08/17/11 09:48
L1112769-10	RM302-IWN-081711	LAWRENCE, MA	08/17/11 09:50
L1112769-11	RM304-IWN-081711	LAWRENCE, MA	08/17/11 09:54
L1112769-12	RM306-IWN-081711	LAWRENCE, MA	08/17/11 09:57
L1112769-13	SGH-WALL-081711	LAWRENCE, MA	08/17/11 10:05
L1112769-14	SGH-WWN-081711	LAWRENCE, MA	08/17/11 10:07
L1112769-15	RM307-IWN-081711	LAWRENCE, MA	08/17/11 10:10
L1112769-16	RM308-TDSK-081711	LAWRENCE, MA	08/17/11 10:19
L1112769-17	RM308-IWN-081711	LAWRENCE, MA	08/17/11 10:15
L1112769-18	RM205-EIWN-081711	LAWRENCE, MA	08/17/11 10:53
L1112769-19	RM205-NIWN-081711	LAWRENCE, MA	08/17/11 11:10
L1112769-20	RM204-DSK-081711	LAWRENCE, MA	08/17/11 11:14

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112769
Report Date: 08/26/11

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112769
Report Date: 08/26/11

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

MCP Related Narratives

Report Submission

Due to a mechanical malfunction during the extraction process, the PCB analysis could not be completed for samples L1112769-11 through -20.


PCB

In reference to question H:

The WG485827-2 LCS recoveries, associated with L1112769-01 through -10, were below the acceptance criteria for Aroclor 1016 (39%) and Aroclor 1260 (39%); however, re-extraction could not be performed due to lack of additional sample. The results of the original analyses are reported; however, all results are considered to have a potentially low bias for these compounds.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Michelle M. Morris

Title: Technical Director/Representative

Date: 08/26/11

ORGANICS

PCBS

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112769
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112769-01
 Client ID: RM305-NWN-081711
 Sample Location: LAWRENCE, MA
 Matrix: Wipe
 Analytical Method: 93,8082
 Analytical Date: 08/26/11 09:39
 Analyst: SS

Date Collected: 08/17/11 09:12
 Date Received: 08/18/11
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 08/22/11 22:11
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 08/26/11
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 08/26/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	51		30-150
Decachlorobiphenyl	46		30-150
2,4,5,6-Tetrachloro-m-xylene	48		30-150
Decachlorobiphenyl	46		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112769
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112769-02
 Client ID: RM305-CWN-081711
 Sample Location: LAWRENCE, MA
 Matrix: Wipe
 Analytical Method: 93,8082
 Analytical Date: 08/26/11 09:51
 Analyst: SS

Date Collected: 08/17/11 09:16
 Date Received: 08/18/11
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 08/22/11 22:11
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 08/26/11
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 08/26/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	73		30-150
Decachlorobiphenyl	74		30-150
2,4,5,6-Tetrachloro-m-xylene	74		30-150
Decachlorobiphenyl	71		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112769
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112769-03
 Client ID: RM305-SWN-081711
 Sample Location: LAWRENCE, MA
 Matrix: Wipe
 Analytical Method: 93,8082
 Analytical Date: 08/26/11 10:03
 Analyst: SS

Date Collected: 08/17/11 09:20
 Date Received: 08/18/11
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 08/22/11 22:11
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 08/26/11
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 08/26/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	50		30-150
Decachlorobiphenyl	48		30-150
2,4,5,6-Tetrachloro-m-xylene	46		30-150
Decachlorobiphenyl	46		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112769
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112769-04
Client ID: RM305-SDSK-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/26/11 10:16
Analyst: SS

Date Collected: 08/17/11 09:25
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/22/11 22:11
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/26/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/26/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	40		30-150
Decachlorobiphenyl	37		30-150
2,4,5,6-Tetrachloro-m-xylene	40		30-150
Decachlorobiphenyl	43		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112769
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112769-05
Client ID: RM305-CDSK-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/26/11 10:28
Analyst: SS

Date Collected: 08/17/11 09:27
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/22/11 22:11
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/26/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/26/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	36		30-150
Decachlorobiphenyl	32		30-150
2,4,5,6-Tetrachloro-m-xylene	35		30-150
Decachlorobiphenyl	36		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112769
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112769-06
Client ID: NGH-WALL-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/26/11 10:40
Analyst: SS

Date Collected: 08/17/11 09:36
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/22/11 22:30
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/26/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/26/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	47		30-150
Decachlorobiphenyl	44		30-150
2,4,5,6-Tetrachloro-m-xylene	46		30-150
Decachlorobiphenyl	49		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112769
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112769-07
Client ID: NGH-WWN-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/26/11 10:53
Analyst: SS

Date Collected: 08/17/11 09:40
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/22/11 22:30
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/26/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/26/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	63		30-150
Decachlorobiphenyl	61		30-150
2,4,5,6-Tetrachloro-m-xylene	61		30-150
Decachlorobiphenyl	67		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112769
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112769-08
 Client ID: RM303-IWN-081711
 Sample Location: LAWRENCE, MA
 Matrix: Wipe
 Analytical Method: 93,8082
 Analytical Date: 08/26/11 11:05
 Analyst: SS

Date Collected: 08/17/11 09:45
 Date Received: 08/18/11
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 08/22/11 22:30
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 08/26/11
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 08/26/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	44		30-150
Decachlorobiphenyl	40		30-150
2,4,5,6-Tetrachloro-m-xylene	42		30-150
Decachlorobiphenyl	47		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112769
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112769-09
 Client ID: RM303-DSK-081711
 Sample Location: LAWRENCE, MA
 Matrix: Wipe
 Analytical Method: 93,8082
 Analytical Date: 08/26/11 11:17
 Analyst: SS

Date Collected: 08/17/11 09:48
 Date Received: 08/18/11
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 08/22/11 22:30
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 08/26/11
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 08/26/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	64		30-150
Decachlorobiphenyl	64		30-150
2,4,5,6-Tetrachloro-m-xylene	66		30-150
Decachlorobiphenyl	75		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112769
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112769-10
 Client ID: RM302-IWN-081711
 Sample Location: LAWRENCE, MA
 Matrix: Wipe
 Analytical Method: 93,8082
 Analytical Date: 08/26/11 11:30
 Analyst: SS

Date Collected: 08/17/11 09:50
 Date Received: 08/18/11
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 08/22/11 22:30
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 08/26/11
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 08/26/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	48		30-150
Decachlorobiphenyl	45		30-150
2,4,5,6-Tetrachloro-m-xylene	47		30-150
Decachlorobiphenyl	52		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112769
Report Date: 08/26/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 93,8082
Analytical Date: 08/26/11 09:02
Analyst: SS

Extraction Method: EPA 3540C
Extraction Date: 08/22/11 22:11
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/26/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/26/11

Parameter	Result	Qualifier	Units	RL	MDL
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01-10 Batch: WG485827-1					
Aroclor 1016	ND		ug Abs	0.500	--
Aroclor 1221	ND		ug Abs	0.500	--
Aroclor 1232	ND		ug Abs	0.500	--
Aroclor 1242	ND		ug Abs	0.500	--
Aroclor 1248	ND		ug Abs	0.500	--
Aroclor 1254	ND		ug Abs	0.500	--
Aroclor 1260	ND		ug Abs	0.500	--
Aroclor 1262	ND		ug Abs	0.500	--
Aroclor 1268	ND		ug Abs	0.500	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	66		30-150
Decachlorobiphenyl	76		30-150
2,4,5,6-Tetrachloro-m-xylene	62		30-150
Decachlorobiphenyl	73		30-150

Lab Control Sample Analysis**Batch Quality Control**

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112769
Report Date: 08/26/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01-10 Batch: WG485827-2 WG485827-3								
Aroclor 1016	39	Q	48		40-140	21		30
Aroclor 1260	39	Q	45		40-140	15		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	41		45		30-150
Decachlorobiphenyl	43		46		30-150
2,4,5,6-Tetrachloro-m-xylene	43		46		30-150
Decachlorobiphenyl	41		48		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112769
Report Date: 08/26/11

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1112769-01A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112769-02A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112769-03A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112769-04A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112769-05A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112769-06A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112769-07A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112769-08A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112769-09A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112769-10A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112769-11A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	HOLD(14)
L1112769-12A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	HOLD(14)
L1112769-13A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	HOLD(14)
L1112769-14A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	HOLD(14)
L1112769-15A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	HOLD(14)
L1112769-16A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	HOLD(14)
L1112769-17A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	HOLD(14)
L1112769-18A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	HOLD(14)
L1112769-19A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	HOLD(14)
L1112769-20A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	HOLD(14)

Container Comments

L1112769-01A

L1112769-02A

L1112769-03A

L1112769-04A

*Values in parentheses indicate holding time in days



Project Name: CCHS**Lab Number:** L1112769**Project Number:** 061.01307.011**Report Date:** 08/26/11**Container Information**

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
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Container Comments

L1112769-05A

L1112769-06A

L1112769-07A

L1112769-08A

L1112769-09A

L1112769-10A

L1112769-11A

L1112769-12A

L1112769-13A

L1112769-14A

L1112769-15A

L1112769-16A

L1112769-17A

L1112769-18A

L1112769-19A

L1112769-20A

*Values in parentheses indicate holding time in days



Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112769
Report Date: 08/26/11

GLOSSARY

Acronyms

EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- | | |
|----------|--|
| A | - Spectra identified as "Aldol Condensation Product". |
| B | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| C | - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses. |
| D | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| E | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| G | - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated. |
| H | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| I | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| M | - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte. |
| P | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| Q | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less |

Report Format: Data Usability Report



Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112769
Report Date: 08/26/11

Data Qualifiers

than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112769
Report Date: 08/26/11

REFERENCES

- 93 Compendium of Quality Assurance and Quality Control Requirements and Performance Standards for Selected Analytical Methods. MADEP BWSC. Draft Revisions. September-December 2009.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certificate/Approval Program Summary

Last revised July 28, 2011 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574. **NELAP Accredited Solid Waste/Soil.**

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3,3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Maine Department of Human Services Certificate/Lab ID: 2009024.

Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500CI-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500CI-D, 4500CI-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223D, 9222D. Organic Parameters: 608, 8081, 8082, 8330, 8151A, 624, 8260, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014A, 9040B, 9045C, 6010B, 7471A, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8330, 8151A, 8081A, 8082, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.

Drinking Water (Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

Non-Potable Water (Inorganic Parameters: (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl, V,Zn); 245.1, SM4500H,B, EPA 120.1,

SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B;Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. *NELAP Accredited.*

Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, 9050A, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 5030B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8151A.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050C, 9065,1311, 1312, 3005A, 3050B. Organic Parameters: SW-846 3540C, 3546, 3580A, 5030B, 5035, 8260B, 8270C, 8330, 8151A, 8015B, 8082, 8081A.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. *NELAP Accredited.*

Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500CI-E, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 6020, 6020A, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, 3015, EPA 6010B, 6010C, 7196A, 3060A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8081B, 8082, 8082A, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 7196A, 3060A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. *NELAP Accredited.*

Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-04-1-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 9010B, 9030B.. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: 1010, 1030, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8015B, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. **NELAP Accredited.**
Drinking Water (Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 1312, 200.7, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE.
Organic Parameters: EPA 3510C, 5030B, 625, 624, 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 6010B, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5035, 8015B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. **NELAP Accredited via NY-DOH.**
 Refer to MA-DEP Certificate for Potable and Non-Potable Water.
 Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commissoon on Environmental Quality Certificate/Lab ID: T104704476-09-1. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S²⁻D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Department of Defense Certificate/Lab ID: L2217.

Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 5220D, 5310C, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8270C, 8330A, 625, 8082, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9010, 9012A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8270C, 8330A/B-prep, 8082, 8081A, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:

EPA 8260B: Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnaphthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO₂ in a soil matrix, NO₃ in a soil matrix, SO₄ in a soil matrix.



LABORATORY REPORT CHECKLIST

Laboratory: Alpha Analytical, Inc.
Site: Central Catholic H.S., Lawrence, MA Lab Job No.: L1112772
Report Reviewed by: T. Sany Date Reviewed: 8/26/11
Sample Description: Wipe Samples

Sample Integrity

- ☒ N/A Custody Seal
- ☒ Temperature 13 °C
- ☒ Preservation hexane
- ☒ Containers
- ☒ Holding time
- ☒ Date and time of collection
- ☒ Field identification accurate
- ☒ Filtration, any field manipulation noted
- ☒ Separate phase, matrix notes

Laboratory Information

- ☒ Current certification (if applicable)
- ☒ Name and address
- ☒ Signed by Lab Director or designee
- ☒ Lab ID No.
- ☒ N/A Certification Statement (EPH/VPH)

Chain of Custody

- ☒ Relinquish and receipt signatures, dates, and times
- ☒ No gaps in custody
- ☒ Name of person collecting sample

Laboratory Report

- ☒ Method Reference
- ☒ Sample preparation
- ☒ Analysis method
- ☒ Modifications to method
- ☒ Units (solids on a dry weight basis)
- ☒ Reporting limits
- ☒ Analyst
- ☒ Date of analysis
- ☒ Date of preparation, if applicable
- ☒ Dilution factors
- ☒ N/A % Moisture for solid samples wipe
- ☒ Target analytes correct
- ☒ Matrix
- ☒ Lab report and/or sample ID#

Quality Assurance/Quality Control

- ☒ Any findings notes, explained well, data impact clear
- ☒ Method blank less than detection limit or not greater than 10% of lowest detected sample
- ☒ Surrogates, every sample, in control or discussed 125/1250
- ☒ Matrix Spike/Matrix Spike Duplicate/Duplicate in control or discussed

Comments: _____



ANALYTICAL REPORT

Lab Number:	L1112772
Client:	Ransom Environmental 12 Kent Way Suite 100 Byfield, MA 01922-1221
ATTN:	Tim Snay
Phone:	(978) 465-1822
Project Name:	CCHS
Project Number:	061.01307.011
Report Date:	08/25/11

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1112772-01	BDUP6-BD-081711	LAWRENCE, MA	08/17/11 08:00
L1112772-02	RM204-LIWN-081711	LAWRENCE, MA	08/17/11 11:16
L1112772-03	RM204-RIWN-081711	LAWRENCE, MA	08/17/11 11:18
L1112772-04	RM203-IWN-081711	LAWRENCE, MA	08/17/11 11:24
L1112772-05	RM203-DSK-081711	LAWRENCE, MA	08/17/11 11:27
L1112772-06	BDUP5-BD-081711	LAWRENCE, MA	08/17/11 08:45
L1112772-07	RM202-IWN-081711	LAWRENCE, MA	08/17/11 11:33
L1112772-08	RM210-IWN-081711	LAWRENCE, MA	08/17/11 11:37
L1112772-09	RM210-TDSK-081711	LAWRENCE, MA	08/17/11 11:40
L1112772-10	RM211-IWN-081711	LAWRENCE, MA	08/17/11 11:45
L1112772-11	RM209-IWN-081711	LAWRENCE, MA	08/17/11 11:53
L1112772-12	RM208-EIWN-081711	LAWRENCE, MA	08/17/11 12:03
L1112772-13	RM208-SIWN-081711	LAWRENCE, MA	08/17/11 12:08
L1112772-14	RM206-SIWN-081711	LAWRENCE, MA	08/17/11 12:15
L1112772-15	RM206-NIWN-081711	LAWRENCE, MA	08/17/11 12:17
L1112772-16	RM109-EIWN-081711	LAWRENCE, MA	08/17/11 13:45
L1112772-17	RM109-SIWN-081711	LAWRENCE, MA	08/17/11 13:47
L1112772-18	RM109-TBL-081711	LAWRENCE, MA	08/17/11 13:50
L1112772-19	BDUP2-BD-081711	LAWRENCE, MA	08/17/11 13:30
L1112772-20	BDUP4-BD-081711	LAWRENCE, MA	08/17/11 13:00

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.


MCP Related Narratives

Report Submission

All MCP required questions were answered with affirmative responses; therefore, there are no relevant protocol-specific QC and/or performance standard non-conformances to report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Michelle M. Morris

Title: Technical Director/Representative

Date: 08/25/11

ORGANICS

PCBS

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

SAMPLE RESULTS

Lab ID: L1112772-01
 Client ID: BDUP6-BD-081711
 Sample Location: LAWRENCE, MA
 Matrix: Wipe
 Analytical Method: 93,8082
 Analytical Date: 08/25/11 13:54
 Analyst: GT

Date Collected: 08/17/11 08:00
 Date Received: 08/18/11
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 08/23/11 00:25
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 08/25/11
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	85		30-150
Decachlorobiphenyl	66		30-150
2,4,5,6-Tetrachloro-m-xylene	92		30-150
Decachlorobiphenyl	85		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

SAMPLE RESULTS

Lab ID: L1112772-02
Client ID: RM204-LIWN-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 08:49
Analyst: GT

Date Collected: 08/17/11 11:16
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/23/11 00:25
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	59		30-150
Decachlorobiphenyl	43		30-150
2,4,5,6-Tetrachloro-m-xylene	63		30-150
Decachlorobiphenyl	60		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

SAMPLE RESULTS

Lab ID: L1112772-03
 Client ID: RM204-RIWN-081711
 Sample Location: LAWRENCE, MA
 Matrix: Wipe
 Analytical Method: 93,8082
 Analytical Date: 08/25/11 09:02
 Analyst: GT

Date Collected: 08/17/11 11:18
 Date Received: 08/18/11
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 08/23/11 00:25
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 08/25/11
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	66		30-150
Decachlorobiphenyl	45		30-150
2,4,5,6-Tetrachloro-m-xylene	70		30-150
Decachlorobiphenyl	61		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

SAMPLE RESULTS

Lab ID: L1112772-04
Client ID: RM203-IWN-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 09:16
Analyst: GT

Date Collected: 08/17/11 11:24
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/23/11 00:25
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	68		30-150
Decachlorobiphenyl	48		30-150
2,4,5,6-Tetrachloro-m-xylene	75		30-150
Decachlorobiphenyl	68		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

SAMPLE RESULTS

Lab ID: L1112772-05
 Client ID: RM203-DSK-081711
 Sample Location: LAWRENCE, MA
 Matrix: Wipe
 Analytical Method: 93,8082
 Analytical Date: 08/25/11 09:29
 Analyst: GT

Date Collected: 08/17/11 11:27
 Date Received: 08/18/11
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 08/23/11 00:25
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 08/25/11
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	63		30-150
Decachlorobiphenyl	50		30-150
2,4,5,6-Tetrachloro-m-xylene	66		30-150
Decachlorobiphenyl	70		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

SAMPLE RESULTS

Lab ID: L1112772-06
Client ID: BDUP5-BD-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 09:42
Analyst: GT

Date Collected: 08/17/11 08:45
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/23/11 00:25
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	54		30-150
Decachlorobiphenyl	39		30-150
2,4,5,6-Tetrachloro-m-xylene	58		30-150
Decachlorobiphenyl	53		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

SAMPLE RESULTS

Lab ID: L1112772-07
Client ID: RM202-IWN-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 09:55
Analyst: GT

Date Collected: 08/17/11 11:33
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/23/11 00:25
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	75		30-150
Decachlorobiphenyl	52		30-150
2,4,5,6-Tetrachloro-m-xylene	80		30-150
Decachlorobiphenyl	71		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

SAMPLE RESULTS

Lab ID: L1112772-08
Client ID: RM210-IWN-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 10:09
Analyst: GT

Date Collected: 08/17/11 11:37
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/23/11 00:25
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	42		30-150
Decachlorobiphenyl	30		30-150
2,4,5,6-Tetrachloro-m-xylene	45		30-150
Decachlorobiphenyl	41		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

SAMPLE RESULTS

Lab ID: L1112772-09
 Client ID: RM210-TDSK-081711
 Sample Location: LAWRENCE, MA
 Matrix: Wipe
 Analytical Method: 93,8082
 Analytical Date: 08/25/11 10:22
 Analyst: GT

Date Collected: 08/17/11 11:40
 Date Received: 08/18/11
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 08/23/11 00:25
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 08/25/11
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	58		30-150
Decachlorobiphenyl	45		30-150
2,4,5,6-Tetrachloro-m-xylene	61		30-150
Decachlorobiphenyl	61		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

SAMPLE RESULTS

Lab ID: L1112772-10
 Client ID: RM211-IWN-081711
 Sample Location: LAWRENCE, MA
 Matrix: Wipe
 Analytical Method: 93,8082
 Analytical Date: 08/25/11 10:35
 Analyst: GT

Date Collected: 08/17/11 11:45
 Date Received: 08/18/11
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 08/23/11 00:25
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 08/25/11
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	54		30-150
Decachlorobiphenyl	39		30-150
2,4,5,6-Tetrachloro-m-xylene	57		30-150
Decachlorobiphenyl	52		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

SAMPLE RESULTS

Lab ID: L1112772-11
Client ID: RM209-IWN-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 10:49
Analyst: GT

Date Collected: 08/17/11 11:53
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/23/11 00:25
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	67		30-150
Decachlorobiphenyl	48		30-150
2,4,5,6-Tetrachloro-m-xylene	72		30-150
Decachlorobiphenyl	66		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

SAMPLE RESULTS

Lab ID: L1112772-12
Client ID: RM208-EIWN-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 11:02
Analyst: GT

Date Collected: 08/17/11 12:03
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/23/11 00:25
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	67		30-150
Decachlorobiphenyl	50		30-150
2,4,5,6-Tetrachloro-m-xylene	72		30-150
Decachlorobiphenyl	66		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

SAMPLE RESULTS

Lab ID: L1112772-13
Client ID: RM208-SIWN-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 11:15
Analyst: GT

Date Collected: 08/17/11 12:08
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/23/11 00:25
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	66		30-150
Decachlorobiphenyl	49		30-150
2,4,5,6-Tetrachloro-m-xylene	71		30-150
Decachlorobiphenyl	64		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

SAMPLE RESULTS

Lab ID: L1112772-14
Client ID: RM206-SIWN-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 11:28
Analyst: GT

Date Collected: 08/17/11 12:15
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/23/11 00:25
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	65		30-150
Decachlorobiphenyl	50		30-150
2,4,5,6-Tetrachloro-m-xylene	70		30-150
Decachlorobiphenyl	66		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

SAMPLE RESULTS

Lab ID: L1112772-15
Client ID: RM206-NIWN-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 11:42
Analyst: GT

Date Collected: 08/17/11 12:17
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/23/11 00:25
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	69		30-150
Decachlorobiphenyl	52		30-150
2,4,5,6-Tetrachloro-m-xylene	75		30-150
Decachlorobiphenyl	67		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

SAMPLE RESULTS

Lab ID: L1112772-16
Client ID: RM109-EIWN-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 11:55
Analyst: GT

Date Collected: 08/17/11 13:45
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/23/11 00:25
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	70		30-150
Decachlorobiphenyl	53		30-150
2,4,5,6-Tetrachloro-m-xylene	75		30-150
Decachlorobiphenyl	68		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

SAMPLE RESULTS

Lab ID: L1112772-17
Client ID: RM109-SIWN-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 12:08
Analyst: GT

Date Collected: 08/17/11 13:47
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/23/11 00:25
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	67		30-150
Decachlorobiphenyl	51		30-150
2,4,5,6-Tetrachloro-m-xylene	73		30-150
Decachlorobiphenyl	67		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

SAMPLE RESULTS

Lab ID: L1112772-18
Client ID: RM109-TBL-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 13:15
Analyst: GT

Date Collected: 08/17/11 13:50
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/23/11 00:25
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	51		30-150
Decachlorobiphenyl	51		30-150
2,4,5,6-Tetrachloro-m-xylene	54		30-150
Decachlorobiphenyl	66		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

SAMPLE RESULTS

Lab ID: L1112772-19
Client ID: BDUP2-BD-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 13:28
Analyst: GT

Date Collected: 08/17/11 13:30
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/23/11 00:25
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	69		30-150
Decachlorobiphenyl	53		30-150
2,4,5,6-Tetrachloro-m-xylene	74		30-150
Decachlorobiphenyl	68		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

SAMPLE RESULTS

Lab ID: L1112772-20
 Client ID: BDUP4-BD-081711
 Sample Location: LAWRENCE, MA
 Matrix: Wipe
 Analytical Method: 93,8082
 Analytical Date: 08/25/11 13:41
 Analyst: GT

Date Collected: 08/17/11 13:00
 Date Received: 08/18/11
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 08/23/11 00:25
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 08/25/11
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	65		30-150
Decachlorobiphenyl	51		30-150
2,4,5,6-Tetrachloro-m-xylene	70		30-150
Decachlorobiphenyl	68		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 93,8082
Analytical Date: 08/25/11 12:21
Analyst: GT

Extraction Method: EPA 3540C
Extraction Date: 08/23/11 00:25
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01-20 Batch: WG485828-1					
Aroclor 1016	ND		ug Abs	0.500	--
Aroclor 1221	ND		ug Abs	0.500	--
Aroclor 1232	ND		ug Abs	0.500	--
Aroclor 1242	ND		ug Abs	0.500	--
Aroclor 1248	ND		ug Abs	0.500	--
Aroclor 1254	ND		ug Abs	0.500	--
Aroclor 1260	ND		ug Abs	0.500	--
Aroclor 1262	ND		ug Abs	0.500	--
Aroclor 1268	ND		ug Abs	0.500	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	70		30-150
Decachlorobiphenyl	55		30-150
2,4,5,6-Tetrachloro-m-xylene	75		30-150
Decachlorobiphenyl	73		30-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01-20 Batch: WG485828-2 WG485828-3								
Aroclor 1016	70		70		40-140	0		30
Aroclor 1260	70		61		40-140	14		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	66		68		30-150
Decachlorobiphenyl	53		52		30-150
2,4,5,6-Tetrachloro-m-xylene	70		71		30-150
Decachlorobiphenyl	70		67		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1112772-01A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112772-02A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112772-03A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112772-04A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112772-05A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112772-06A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112772-07A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112772-08A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112772-09A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112772-10A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112772-11A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112772-12A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112772-13A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112772-14A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112772-15A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112772-16A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112772-17A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112772-18A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112772-19A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112772-20A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)

Container Comments

L1112772-01A

L1112772-02A

L1112772-03A

L1112772-04A

*Values in parentheses indicate holding time in days



Project Name: CCHS**Lab Number:** L1112772**Project Number:** 061.01307.011**Report Date:** 08/25/11**Container Information**

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
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Container Comments

L1112772-05A

L1112772-06A

L1112772-07A

L1112772-08A

L1112772-09A

L1112772-10A

L1112772-11A

L1112772-12A

L1112772-13A

L1112772-14A

L1112772-15A

L1112772-16A

L1112772-17A

L1112772-18A

L1112772-19A

L1112772-20A

*Values in parentheses indicate holding time in days



Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

GLOSSARY

Acronyms

EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- | | |
|----------|--|
| A | - Spectra identified as "Aldol Condensation Product". |
| B | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| C | - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses. |
| D | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| E | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| G | - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated. |
| H | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| I | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| M | - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte. |
| P | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| Q | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less |

Report Format: Data Usability Report



Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

Data Qualifiers

than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112772
Report Date: 08/25/11

REFERENCES

- 93 Compendium of Quality Assurance and Quality Control Requirements and Performance Standards for Selected Analytical Methods. MADEP BWSC. Draft Revisions. September-December 2009.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certificate/Approval Program Summary

Last revised July 28, 2011 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574. **NELAP Accredited Solid Waste/Soil.**

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3,3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Maine Department of Human Services Certificate/Lab ID: 2009024.

Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500CI-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500CI-D, 4500CI-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223D, 9222D. Organic Parameters: 608, 8081, 8082, 8330, 8151A, 624, 8260, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014A, 9040B, 9045C, 6010B, 7471A, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8330, 8151A, 8081A, 8082, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.

Drinking Water (Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

Non-Potable Water (Inorganic Parameters: (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl, V,Zn); 245.1, SM4500H,B, EPA 120.1,

SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B;Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. *NELAP Accredited.*

Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, 9050A, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 5030B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8151A.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050C, 9065,1311, 1312, 3005A, 3050B. Organic Parameters: SW-846 3540C, 3546, 3580A, 5030B, 5035, 8260B, 8270C, 8330, 8151A, 8015B, 8082, 8081A.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. *NELAP Accredited.*

Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500CI-E, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 6020, 6020A, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, 3015, EPA 6010B, 6010C, 7196A, 3060A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8081B, 8082, 8082A, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 7196A, 3060A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. *NELAP Accredited.*

Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-04-1-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 9010B, 9030B.. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: 1010, 1030, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8015B, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. **NELAP Accredited.**
Drinking Water (Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 1312, 200.7, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE.
Organic Parameters: EPA 3510C, 5030B, 625, 624, 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 6010B, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5035, 8015B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. **NELAP Accredited via NY-DOH.**
 Refer to MA-DEP Certificate for Potable and Non-Potable Water.
 Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476-09-1. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S²⁻D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Department of Defense Certificate/Lab ID: L2217.

Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 5220D, 5310C, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8270C, 8330A, 625, 8082, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9010, 9012A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8270C, 8330A/B-prep, 8082, 8081A, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:

EPA 8260B: Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnaphthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO₂ in a soil matrix, NO₃ in a soil matrix, SO₄ in a soil matrix.



LABORATORY REPORT CHECKLIST

Laboratory: Alpha Analytical, Inc.
Site: Central Catholic H.S., Lawrence, MA Lab Job No.: L1112775
Report Reviewed by: T. Bray Date Reviewed: 8/29/11
Sample Description: WIS - Samples

Sample Integrity

- ☐ Custody Seal N/A
- ☒ Temperature 5 °C
- ☒ Preservation
- ☒ Containers
- ☒ Holding time
- ☒ Date and time of collection
- ☒ Field identification accurate
- ☒ Filtration, any field manipulation noted
- ☐ Separate phase, matrix notes N/A

Laboratory Information

- ☒ Current certification (if applicable)
- ☒ Name and address
- ☒ Signed by Lab Director or designee
- ☒ Lab ID No.
- ☐ Certification Statement (EPH/VPH) N/A

Chain of Custody

- ☒ Relinquish and receipt signatures, dates, and times
- ☒ No gaps in custody
- ☒ Name of person collecting sample

Laboratory Report

- ☒ Method Reference
- Sample preparation
- Analysis method
- Modifications to method
- ☒ Units (solids on a dry weight basis)
- ☒ Reporting limits
- ☒ Analyst
- ☒ Date of analysis
- ☒ Date of preparation, if applicable
- ☒ Dilution factors
- ☐ % Moisture for solid samples N/A
- ☒ Target analytes correct
- ☒ Matrix
- ☒ Lab report and/or sample ID#

Quality Assurance/Quality Control

- ☒ Any findings notes, explained well, data impact clear
- ☒ Method blank less than detection limit or not greater than 10% of lowest detected sample
- ☒ Surrogates, every sample, in control or discussed LCS/LCSD
- ☐ Matrix Spike/Matrix Spike Duplicate/Duplicate in control or discussed

Comments: Surrogate recoveries for 1 sample outside acceptance criteria (low). LCS/LCSD recoveries were outside acceptance criteria (low) for Arsenic 1016/1260. Results could be biased low.



ANALYTICAL REPORT

Lab Number:	L1112775
Client:	Ransom Environmental 12 Kent Way Suite 100 Byfield, MA 01922-1221
ATTN:	Tim Snay
Phone:	(978) 465-1822
Project Name:	CCHS
Project Number:	061.01307.011
Report Date:	08/26/11

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1112775-01	HLW4-SIWN-081711	LAWRENCE, MA	08/17/11 13:54
L1112775-02	BDUP3-BD-081711	LAWRENCE, MA	08/17/11 12:50
L1112775-03	L1075-DR-081711	LAWRENCE, MA	08/17/11 14:00
L1112775-04	RM110-IWN-081711	LAWRENCE, MA	08/17/11 14:03
L1112775-05	RM112-IWN-081711	LAWRENCE, MA	08/17/11 14:06
L1112775-06	RM101-DSK-081711	LAWRENCE, MA	08/17/11 14:12
L1112775-07	RM101-IWN-081711	LAWRENCE, MA	08/17/11 14:10
L1112775-08	RM103-IWN-081711	LAWRENCE, MA	08/17/11 14:13
L1112775-09	RM103-DSK-081711	LAWRENCE, MA	08/17/11 14:15
L1112775-10	RM104-NIWN-081711	LAWRENCE, MA	08/17/11 14:18
L1112775-11	RM104-EIWN-081711	LAWRENCE, MA	08/17/11 14:22
L1112775-12	HSEH-IDR-081711	LAWRENCE, MA	08/17/11 14:30
L1112775-13	HSEF-IDR-081711	LAWRENCE, MA	08/17/11 14:34
L1112775-14	RM107-IWN-081711	LAWRENCE, MA	08/17/11 14:29
L1112775-15	RMG06-EIWN-081711	LAWRENCE, MA	08/17/11 14:50
L1112775-16	RMG06-NIWN-081711	LAWRENCE, MA	08/17/11 14:53
L1112775-17	RMG06-DSK-081711	LAWRENCE, MA	08/17/11 14:57
L1112775-18	BDUP1-BD-081711	LAWRENCE, MA	08/17/11 16:00
L1112775-19	RMG09-IDR-081711	LAWRENCE, MA	08/17/11 15:03
L1112775-20	RMG09-IWN-081711	LAWRENCE, MA	08/17/11 15:06
L1112775-21	RMG09-DSK-081711	LAWRENCE, MA	08/17/11 15:09
L1112775-22	RMG09-EWN-081711	LAWRENCE, MA	08/17/11 15:14
L1112775-23	RMG06-EDR-081711	LAWRENCE, MA	08/17/11 15:17
L1112775-24	RMG03-EWN-081711	LAWRENCE, MA	08/17/11 15:28

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

MCP Related Narratives

Report Submission

Due to a mechanical malfunction during the extraction process, the PCB analysis could not be completed for sample L1112775-13.

PCB

In reference to question H:

The surrogate recoveries for L1112775-14 were outside the acceptance criteria for 2,4,5,6-Tetrachloro-m-xylene (24%/22%); however, re-extraction could not be performed due to lack of additional sample. The results of the original analysis are reported; however, all associated compounds are considered to have a potential bias.

The surrogate recoveries for the WG485829-3 LCSD, associated with L1112775-01 through -12 and -14

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

Case Narrative (continued)


through -20, are below the acceptance criteria for 2,4,5,6-Tetrachloro-m-xylene (17%/16%). The LCSD spike compounds are within overall method allowances; therefore, no further action was taken.

The WG486123-2 LCS recoveries, associated with L1112775-21 through -24, were below the acceptance criteria for Aroclor 1016 (34%) and Aroclor 1260 (25%); however, re-extraction could not be performed due to lack of additional sample. The results of the original analyses are reported; however, all results are considered to have a potentially low bias for these compounds. In addition, the associated WG486123-2/-3 LCS/LCSD RPDs are above the acceptance criteria for Aroclor 1016 (35%) and Aroclor 1260 (57%).

The surrogate recoveries for the WG486123-2 LCS, associated with L1112775-21 through -24, were outside the acceptance criteria for Decachlorobiphenyl (27%/27%) and 2,4,5,6-Tetrachloro-m-xylene (29%).

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Michelle M. Morris

Title: Technical Director/Representative

Date: 08/26/11

ORGANICS

PCBS

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112775-01
 Client ID: HLW4-SIWN-081711
 Sample Location: LAWRENCE, MA
 Matrix: Wipe
 Analytical Method: 93,8082
 Analytical Date: 08/25/11 08:41
 Analyst: KB

Date Collected: 08/17/11 13:54
 Date Received: 08/18/11
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 08/22/11 02:10
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 08/25/11
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	46		30-150
Decachlorobiphenyl	43		30-150
2,4,5,6-Tetrachloro-m-xylene	44		30-150
Decachlorobiphenyl	41		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112775-02
Client ID: BDUP3-BD-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 08:53
Analyst: KB

Date Collected: 08/17/11 12:50
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/22/11 02:10
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	50		30-150
Decachlorobiphenyl	48		30-150
2,4,5,6-Tetrachloro-m-xylene	49		30-150
Decachlorobiphenyl	51		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112775-03
Client ID: L1075-DR-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 09:06
Analyst: KB

Date Collected: 08/17/11 14:00
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/22/11 02:10
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	59		30-150
Decachlorobiphenyl	55		30-150
2,4,5,6-Tetrachloro-m-xylene	62		30-150
Decachlorobiphenyl	61		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112775-04
 Client ID: RM110-IWN-081711
 Sample Location: LAWRENCE, MA
 Matrix: Wipe
 Analytical Method: 93,8082
 Analytical Date: 08/25/11 09:18
 Analyst: KB

Date Collected: 08/17/11 14:03
 Date Received: 08/18/11
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 08/22/11 02:10
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 08/25/11
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	57		30-150
Decachlorobiphenyl	54		30-150
2,4,5,6-Tetrachloro-m-xylene	58		30-150
Decachlorobiphenyl	58		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112775-05
Client ID: RM112-IWN-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 09:30
Analyst: KB

Date Collected: 08/17/11 14:06
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/22/11 02:10
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	49		30-150
Decachlorobiphenyl	46		30-150
2,4,5,6-Tetrachloro-m-xylene	43		30-150
Decachlorobiphenyl	44		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112775-06
Client ID: RM101-DSK-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 09:42
Analyst: KB

Date Collected: 08/17/11 14:12
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/22/11 02:10
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	44		30-150
Decachlorobiphenyl	40		30-150
2,4,5,6-Tetrachloro-m-xylene	39		30-150
Decachlorobiphenyl	37		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112775-07
Client ID: RM101-IWN-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 09:55
Analyst: KB

Date Collected: 08/17/11 14:10
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/22/11 02:10
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	37		30-150
Decachlorobiphenyl	34		30-150
2,4,5,6-Tetrachloro-m-xylene	37		30-150
Decachlorobiphenyl	40		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112775-08
Client ID: RM103-IWN-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 10:07
Analyst: KB

Date Collected: 08/17/11 14:13
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/22/11 02:10
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	36		30-150
Decachlorobiphenyl	36		30-150
2,4,5,6-Tetrachloro-m-xylene	36		30-150
Decachlorobiphenyl	40		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112775-09
Client ID: RM103-DSK-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 10:19
Analyst: KB

Date Collected: 08/17/11 14:15
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/22/11 02:10
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	41		30-150
Decachlorobiphenyl	38		30-150
2,4,5,6-Tetrachloro-m-xylene	41		30-150
Decachlorobiphenyl	43		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112775-10
Client ID: RM104-NIWN-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 10:32
Analyst: KB

Date Collected: 08/17/11 14:18
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/22/11 02:10
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	51		30-150
Decachlorobiphenyl	49		30-150
2,4,5,6-Tetrachloro-m-xylene	51		30-150
Decachlorobiphenyl	55		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112775-11
Client ID: RM104-EIWN-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 10:44
Analyst: KB

Date Collected: 08/17/11 14:22
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/22/11 02:10
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	56		30-150
Decachlorobiphenyl	56		30-150
2,4,5,6-Tetrachloro-m-xylene	55		30-150
Decachlorobiphenyl	63		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112775-12
Client ID: HSEH-IDR-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 10:56
Analyst: KB

Date Collected: 08/17/11 14:30
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/22/11 02:10
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	31		30-150
Decachlorobiphenyl	30		30-150
2,4,5,6-Tetrachloro-m-xylene	32		30-150
Decachlorobiphenyl	35		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112775-14
 Client ID: RM107-IWN-081711
 Sample Location: LAWRENCE, MA
 Matrix: Wipe
 Analytical Method: 93,8082
 Analytical Date: 08/25/11 11:09
 Analyst: KB

Date Collected: 08/17/11 14:29
 Date Received: 08/18/11
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 08/22/11 02:10
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 08/25/11
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	24	Q	30-150
Decachlorobiphenyl	36		30-150
2,4,5,6-Tetrachloro-m-xylene	22	Q	30-150
Decachlorobiphenyl	42		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112775-15
Client ID: RMG06-EIWN-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 11:21
Analyst: KB

Date Collected: 08/17/11 14:50
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/22/11 02:10
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	42		30-150
Decachlorobiphenyl	40		30-150
2,4,5,6-Tetrachloro-m-xylene	41		30-150
Decachlorobiphenyl	46		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112775-16
Client ID: RMG06-NIWN-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 11:33
Analyst: KB

Date Collected: 08/17/11 14:53
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/22/11 02:10
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	48		30-150
Decachlorobiphenyl	46		30-150
2,4,5,6-Tetrachloro-m-xylene	47		30-150
Decachlorobiphenyl	49		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112775-17
Client ID: RMG06-DSK-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 11:46
Analyst: KB

Date Collected: 08/17/11 14:57
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/22/11 02:10
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	39		30-150
Decachlorobiphenyl	37		30-150
2,4,5,6-Tetrachloro-m-xylene	38		30-150
Decachlorobiphenyl	42		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112775-18
Client ID: BDUP1-BD-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 11:58
Analyst: KB

Date Collected: 08/17/11 16:00
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/22/11 02:10
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	42		30-150
Decachlorobiphenyl	39		30-150
2,4,5,6-Tetrachloro-m-xylene	42		30-150
Decachlorobiphenyl	45		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112775-19
Client ID: RMG09-IDR-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 12:59
Analyst: KB

Date Collected: 08/17/11 15:03
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/22/11 02:10
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	47		30-150
Decachlorobiphenyl	45		30-150
2,4,5,6-Tetrachloro-m-xylene	48		30-150
Decachlorobiphenyl	54		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112775-20
Client ID: RMG09-IWN-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/25/11 13:12
Analyst: KB

Date Collected: 08/17/11 15:06
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/22/11 02:10
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	60		30-150
Decachlorobiphenyl	58		30-150
2,4,5,6-Tetrachloro-m-xylene	60		30-150
Decachlorobiphenyl	67		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112775-21
Client ID: RMG09-DSK-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/26/11 09:22
Analyst: KB

Date Collected: 08/17/11 15:09
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/24/11 03:00
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/26/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/26/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	83		30-150
Decachlorobiphenyl	71		30-150
2,4,5,6-Tetrachloro-m-xylene	104		30-150
Decachlorobiphenyl	91		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112775-22
Client ID: RMG09-EWN-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/26/11 09:38
Analyst: KB

Date Collected: 08/17/11 15:14
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/24/11 03:00
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/26/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/26/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	63		30-150
Decachlorobiphenyl	51		30-150
2,4,5,6-Tetrachloro-m-xylene	72		30-150
Decachlorobiphenyl	66		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112775-23
Client ID: RMG06-EDR-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/26/11 09:54
Analyst: KB

Date Collected: 08/17/11 15:17
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/24/11 03:00
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/26/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/26/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	57		30-150
Decachlorobiphenyl	48		30-150
2,4,5,6-Tetrachloro-m-xylene	67		30-150
Decachlorobiphenyl	58		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

SAMPLE RESULTS

Lab ID: L1112775-24
Client ID: RMG03-EWN-081711
Sample Location: LAWRENCE, MA
Matrix: Wipe
Analytical Method: 93,8082
Analytical Date: 08/26/11 10:10
Analyst: KB

Date Collected: 08/17/11 15:28
Date Received: 08/18/11
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/24/11 03:00
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/26/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/26/11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Polychlorinated Biphenyls - Westborough Lab						
Aroclor 1016	ND		ug Abs	0.500	--	1
Aroclor 1221	ND		ug Abs	0.500	--	1
Aroclor 1232	ND		ug Abs	0.500	--	1
Aroclor 1242	ND		ug Abs	0.500	--	1
Aroclor 1248	ND		ug Abs	0.500	--	1
Aroclor 1254	ND		ug Abs	0.500	--	1
Aroclor 1260	ND		ug Abs	0.500	--	1
Aroclor 1262	ND		ug Abs	0.500	--	1
Aroclor 1268	ND		ug Abs	0.500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	48		30-150
Decachlorobiphenyl	44		30-150
2,4,5,6-Tetrachloro-m-xylene	56		30-150
Decachlorobiphenyl	52		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 93,8082
Analytical Date: 08/25/11 12:10
Analyst: KB

Extraction Method: EPA 3540C
Extraction Date: 08/22/11 02:10
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/25/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/25/11

Parameter	Result	Qualifier	Units	RL	MDL
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01-12,14-20 Batch: WG485829-1					
Aroclor 1016	ND		ug Abs	0.500	--
Aroclor 1221	ND		ug Abs	0.500	--
Aroclor 1232	ND		ug Abs	0.500	--
Aroclor 1242	ND		ug Abs	0.500	--
Aroclor 1248	ND		ug Abs	0.500	--
Aroclor 1254	ND		ug Abs	0.500	--
Aroclor 1260	ND		ug Abs	0.500	--
Aroclor 1262	ND		ug Abs	0.500	--
Aroclor 1268	ND		ug Abs	0.500	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	68		30-150
Decachlorobiphenyl	67		30-150
2,4,5,6-Tetrachloro-m-xylene	60		30-150
Decachlorobiphenyl	67		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 93,8082
Analytical Date: 08/26/11 10:25
Analyst: KB

Extraction Method: EPA 3540C
Extraction Date: 08/24/11 03:00
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/26/11
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/26/11

Parameter	Result	Qualifier	Units	RL	MDL
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 21-24 Batch: WG486123-1					
Aroclor 1016	ND		ug Abs	0.500	--
Aroclor 1221	ND		ug Abs	0.500	--
Aroclor 1232	ND		ug Abs	0.500	--
Aroclor 1242	ND		ug Abs	0.500	--
Aroclor 1248	ND		ug Abs	0.500	--
Aroclor 1254	ND		ug Abs	0.500	--
Aroclor 1260	ND		ug Abs	0.500	--
Aroclor 1262	ND		ug Abs	0.500	--
Aroclor 1268	ND		ug Abs	0.500	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	44		30-150
Decachlorobiphenyl	39		30-150
2,4,5,6-Tetrachloro-m-xylene	39		30-150
Decachlorobiphenyl	37		30-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01-12,14-20 Batch: WG485829-2 WG485829-3								
Aroclor 1016	70		53		40-140	27		30
Aroclor 1260	73		71		40-140	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	63		17	Q	30-150
Decachlorobiphenyl	62		61		30-150
2,4,5,6-Tetrachloro-m-xylene	63		16	Q	30-150
Decachlorobiphenyl	69		70		30-150

MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 21-24 Batch: WG486123-2 WG486123-3								
Aroclor 1016	34	Q	48		40-140	35	Q	30
Aroclor 1260	25	Q	44		40-140	57	Q	30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,4,5,6-Tetrachloro-m-xylene	31		44		30-150
Decachlorobiphenyl	27	Q	37		30-150
2,4,5,6-Tetrachloro-m-xylene	29	Q	41		30-150
Decachlorobiphenyl	27	Q	38		30-150

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1112775-01A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112775-02A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112775-03A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112775-04A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112775-05A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112775-06A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112775-07A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112775-08A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112775-09A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112775-10A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112775-11A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112775-12A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112775-13A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	HOLD(14)
L1112775-14A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112775-15A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112775-16A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112775-17A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112775-18A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112775-19A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112775-20A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112775-21A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112775-22A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112775-23A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)
L1112775-24A	Amber 100ml Hexane preserved	A	N/A	3	Y	Absent	MCP-8082-10-3540C(365)

Container Comments

*Values in parentheses indicate holding time in days



Project Name: CCHS**Lab Number:** L1112775**Project Number:** 061.01307.011**Report Date:** 08/26/11**Container Information**

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
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Container Comments

L1112775-01A

L1112775-02A

L1112775-03A

L1112775-04A

L1112775-05A

L1112775-06A

L1112775-07A

L1112775-08A

L1112775-09A

L1112775-10A

L1112775-11A

L1112775-12A

L1112775-13A

L1112775-14A

L1112775-15A

L1112775-16A

L1112775-17A

L1112775-18A

L1112775-19A

L1112775-20A

*Values in parentheses indicate holding time in days

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

GLOSSARY

Acronyms

EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- | | |
|----------|--|
| A | - Spectra identified as "Aldol Condensation Product". |
| B | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. |
| C | - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses. |
| D | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte. |
| E | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument. |
| G | - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated. |
| H | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection. |
| I | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference. |
| M | - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte. |
| P | - The RPD between the results for the two columns exceeds the method-specified criteria. |
| Q | - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less |

Report Format: Data Usability Report



Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

Data Qualifiers

than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Project Name: CCHS
Project Number: 061.01307.011

Lab Number: L1112775
Report Date: 08/26/11

REFERENCES

- 93 Compendium of Quality Assurance and Quality Control Requirements and Performance Standards for Selected Analytical Methods. MADEP BWSC. Draft Revisions. September-December 2009.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certificate/Approval Program Summary

Last revised July 28, 2011 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574. **NELAP Accredited Solid Waste/Soil.**

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3,3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Maine Department of Human Services Certificate/Lab ID: 2009024.

Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500CI-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500CI-D, 4500CI-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223D, 9222D. Organic Parameters: 608, 8081, 8082, 8330, 8151A, 624, 8260, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014A, 9040B, 9045C, 6010B, 7471A, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8330, 8151A, 8081A, 8082, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.

Drinking Water (Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

Non-Potable Water (Inorganic Parameters: (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl, V,Zn); 245.1, SM4500H,B, EPA 120.1,

SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B;Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. *NELAP Accredited.*

Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, 9050A, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 5030B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8151A.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050C, 9065,1311, 1312, 3005A, 3050B. Organic Parameters: SW-846 3540C, 3546, 3580A, 5030B, 5035, 8260B, 8270C, 8330, 8151A, 8015B, 8082, 8081A.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. *NELAP Accredited.*

Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500CI-E, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 6020, 6020A, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, 3015, EPA 6010B, 6010C, 7196A, 3060A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8081B, 8082, 8082A, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 7196A, 3060A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. *NELAP Accredited.*

Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-04-1-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 9010B, 9030B.. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: 1010, 1030, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8015B, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. **NELAP Accredited.**
Drinking Water (Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 1312, 200.7, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE.
Organic Parameters: EPA 3510C, 5030B, 625, 624, 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 6010B, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5035, 8015B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. **NELAP Accredited via NY-DOH.**
 Refer to MA-DEP Certificate for Potable and Non-Potable Water.
 Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commissoon on Environmental Quality Certificate/Lab ID: T104704476-09-1. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S²⁻D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Department of Defense Certificate/Lab ID: L2217.

Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 5220D, 5310C, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8270C, 8330A, 625, 8082, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9010, 9012A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8270C, 8330A/B-prep, 8082, 8081A, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:

EPA 8260B: Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnaphthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO₂ in a soil matrix, NO₃ in a soil matrix, SO₄ in a soil matrix.



CHAIN OF CUSTODY

PAGE 5 OF 7

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MAINSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client: Ranson Environmental
Address: 12 Kent Way, Site 100
Byfield MA 01922
Phone: 978 465 1812
Fax: 978 465 2986
Email: tsavage@ransonenv.com

Project Information

Project Name: CC HS

Project Location: Lawrence, MA

Project #: 061.01307.011

Project Manager: Tim Sney

Alpha Quote #:

Turn-Around Time

☒ Standard

☐ RUSH (only confirmed if pre-approved!)

Date Due: 08/25/11

Time:

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All CAM methods for inorganic analyses require MS every 20 soil samples)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials
		Date	Time		
12775-01	41WY-SIWN-081711	8/17/11	13:54	wipe	STB,DEM
02	804P3-BD-081711	8/17/11	13:50	wipe	STB,DEM
03	41075-DE-081711	8/17/11	14:00	wipe	STB,DEM
04	42M110-IWN-081711	8/17/11	14:03	wipe	STB,DEM
05	42M112-IWN-081711	8/17/11	14:06	wipe	STB,DEM
06	42M101-DEK-081711	8/17/11	14:12	wipe	STB,DEM
07	42M161-IWN-081711	8/17/11	14:10	wipe	STB,DEM
08	42M103-IWN-081711	8/17/11	14:13	wipe	STB,DEM
09	42M103-DEK-081711	8/17/11	14:15	wipe	STB,DEM
10	42M104-NIWN-081711	8/17/11	14:18	wipe	STB,DEM

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT

MA MCP or CT RCP?

Container Type H
Preservative 0

Relinquished By:

Date/Time

Received By:

Date/Time

Date Rec'd in Lab: 08-18-11

Report Information - Data Deliverables

☐ FAX ☐ EMAIL

☒ ADEX ☐ Add'l Deliverables

Regulatory Requirements/Report Limits

State / Fed Program

Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☒ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☒ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS
PCBs POPs

SAMPLE HANDLING

Filtration _____
☐ Done
☒ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Sample Specific Comments

ALPHA Job #: 61112775

Billing Information

Same as Client Info

PO #: 3213

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

CHAIN OF CUSTODY

PAGE 6 OF 7



WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MAINSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client: **KANSOM Environmental**

Address: **12 Kent Way, Suite 100**

Bayfield MA 01912

Phone: **978 465 1812**

Fax: **978 465 2986**

Email: **ksong.kansomenv.com**

☐ These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All CAM methods for inorganic analyses require MS every 20 soil samples)

Project Information

Project Name: **CCHS**

Project Location: **Lawrence, MA**

Project #: **061.01307.011**

Project Manager: **Tim Snay**

ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due: **08/25/11** Time:

Date Rec'd in Lab: **08/19/11**

Report Information - Data Deliverables

☐ FAX ☐ EMAIL

☒ ADEX ☐ Add'l Deliverables

Regulatory Requirements/Report Limits

State / Fed Program Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

ALPHA Job #: **11112775**

Billing Information

Same as Client info PO #: **3213**

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Time	Sample Matrix	Sampler's Initials
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12775-11	RM104-E-IWN-081711	8/17/11	14:22	wipe	SR, DM X
12	HSE H-I DR-081711	8/17/11	14:30	wipe	SR, DM X
13	HSE F-I DR-081711	8/17/11	14:34	wipe	SR, DM X
14	RM107-IWN-081711	8/17/11	14:39	wipe	SR, DM X
15	RM606-E-IWN-081711	8/17/11	14:50	wipe	SR, DM X
16	RM606-N-IWN-081711	8/17/11	14:53	wipe	SR, DM X
17	RM606-DSK-081711	8/17/11	14:57	wipe	SR, DM X
18	BDAP 1-BD-081711	8/17/11	16:00	wipe	SR, DM X
19	RM609-I DR-081711	8/17/11	15:03	wipe	SR, DM X
20	RM609-IWN-081711	8/17/11	15:06	wipe	SR, DM X

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MAMCP or CT RCP?

Container Type	Preservative
H	G

Relinquished By:

Date/Time

Received By:

Date/Time

ANALYSIS	SAMPLE HANDLING
PCBs R02	<input type="checkbox"/> Filtration <input type="checkbox"/> Done <input checked="" type="checkbox"/> Not needed <input type="checkbox"/> Lab to do <input type="checkbox"/> Preservation <input type="checkbox"/> Lab to do (Please specify below)
	Sample Specific Comments

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha's Terms and Conditions. See reverse side.



LABORATORY REPORT CHECKLIST

Laboratory: Alpha Analytical
Site: Central Catholic H. S., Lawrence Lab Job No.: L1114221
Report Reviewed by: Heather Dudley-Trotman Date Reviewed: 10/13/11
Sample Description: Indoor Air Samples

Sample Integrity

- ☒ Custody Seal Absent
- ☒ Temperature 3.5 °C
- ☒ Preservation
- ☒ Containers
- ☒ Holding time
- ☒ Date and time of collection
- ☒ Field identification accurate
- ☐ Filtration, any field manipulation noted NA
- ☐ Separate phase, matrix notes NA

Laboratory Information

- ☒ Current certification (if applicable)
- ☒ Name and address
- ☒ Signed by Lab Director or designee
- ☒ Lab ID No.
- ☐ Certification Statement (EPH/VPH) NA

Chain of Custody

- ☒ Relinquish and receipt signatures, dates, and times
- ☐ No gaps in custody ①
- ☒ Name of person collecting sample initials

Laboratory Report

- ☒ Method Reference
- Sample preparation
- Analysis method
- Modifications to method
- ☐ Units (solids on a dry weight basis)
- ☒ Reporting limits
- ☒ Analyst
- ☒ Date of analysis
- ☒ Date of preparation, if applicable
- ☒ Dilution factors
- ☐ % Moisture for solid samples NA
- ☒ Target analytes correct
- ☒ Matrix PUF
- ☒ Lab report and/or sample ID#

Quality Assurance/Quality Control

- ☒ Any findings notes, explained well, data impact clear
- ② ☐ Method blank less than detection limit or not greater than 10% of lowest detected sample
- ☒ Surrogates, every sample, in control or discussed ③
- ☐ Matrix Spike/Matrix Spike Duplicate/Duplicate in control or discussed

Comments: ① date gap 9/12/11 1200 9/13/11 700?

③ Method blank has concentrations above the EL for several analytes. Results qualified with "B" for concentrations less than 5x blank. ③ Surrogates for L1114221-04 were above acceptance criteria, data could be biased high.



ANALYTICAL REPORT

Lab Number:	L1114221
Client:	Ransom Environmental 12 Kent Way Suite 100 Byfield, MA 01922-1221
ATTN:	Tim Snay
Phone:	(978) 465-1822
Project Name:	CCHS
Project Number:	061.01307.014
Report Date:	10/05/11

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1114221-01	IA1-RM204-090911	LAWRENCE, MA	09/09/11 18:22
L1114221-02	IA1-SFH-090911	LAWRENCE, MA	09/09/11 18:39
L1114221-03	IA1-FFH-090911	LAWRENCE, MA	09/09/11 18:54
L1114221-04	IA1-GYM-090911	LAWRENCE, MA	09/09/11 19:05

Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

PCB Congeners and Homologs

The surrogate recoveries for L1114221-04 were outside the acceptance criteria for Cl3-BZ#19-C13 (155%) and Cl8-BZ#202-C13 (128%); however, re-extraction could not be performed due to sample matrix. The results of the original analysis are reported; however, all associated compounds are considered to have a potential bias.

The WG489793-1 Method Blank, associated with L1114221-01 through -04, has a concentration above the reporting limit for several analytes. The results of the original analysis are reported and are qualified with a "B" for any associated sample concentrations that are less than 5x the blank concentration for this analyte.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Cynthia McQueen

Title: Technical Director/Representative

Date: 10/05/11

ORGANICS

PCBS

Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

SAMPLE RESULTS

Lab ID: L1114221-01
 Client ID: IA1-RM204-090911
 Sample Location: LAWRENCE, MA
 Matrix: Air Cartridge
 Analytical Method: 105,680/8270C-SIM(M)
 Analytical Date: 09/30/11 21:53
 Analyst: JD

Date Collected: 09/09/11 18:22
 Date Received: 09/12/11
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 09/14/11 11:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl1-BZ#1	ND		ng/cart	5.00	2.50	1
Cl1-BZ#2	ND		ng/cart	5.00	2.50	1
Cl1-BZ#3	ND		ng/cart	5.00	2.50	1
Cl2-BZ#4/#10	ND		ng/cart	10.0	5.00	1
Cl2-BZ#9	ND		ng/cart	5.00	2.50	1
Cl2-BZ#7	ND		ng/cart	5.00	2.50	1
Cl2-BZ#6	2.81	J	ng/cart	5.00	2.50	1
Cl2-BZ#5	ND		ng/cart	5.00	2.50	1
Cl2-BZ#8	11.4	B	ng/cart	5.00	2.50	1
Cl3-BZ#19	ND		ng/cart	5.00	2.50	1
Cl2-BZ#14	ND		ng/cart	5.00	2.50	1
Cl3-BZ#30	ND		ng/cart	5.00	2.50	1
Cl3-BZ#18	7.95	B	ng/cart	5.00	2.50	1
Cl2-BZ#11	ND		ng/cart	5.00	2.50	1
Cl3-BZ#17	3.71	J	ng/cart	5.00	2.50	1
Cl2-BZ#12	ND		ng/cart	5.00	2.50	1
Cl3-BZ#27	ND		ng/cart	5.00	2.50	1
Cl2-BZ#13	ND		ng/cart	5.00	2.50	1
Cl3-BZ#24	ND		ng/cart	5.00	2.50	1
Cl3-BZ#16	3.55	J	ng/cart	5.00	2.50	1
Cl3-BZ#32	ND		ng/cart	5.00	2.50	1
Cl2-BZ#15	ND		ng/cart	5.00	2.50	1
Cl3-BZ#34	ND		ng/cart	5.00	2.50	1
Cl3-BZ#23	ND		ng/cart	5.00	2.50	1
Cl4-BZ#54	ND		ng/cart	5.00	2.50	1
Cl3-BZ#29	ND		ng/cart	5.00	2.50	1
Cl4-BZ#50	ND		ng/cart	5.00	2.50	1
Cl3-BZ#26	ND		ng/cart	5.00	2.50	1
Cl3-BZ#25	ND		ng/cart	5.00	2.50	1
Cl4-BZ#53	ND		ng/cart	5.00	2.50	1
Cl3-BZ#-31	4.39	JB	ng/cart	5.00	2.50	1

Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

SAMPLE RESULTS

Lab ID: L1114221-01
Client ID: IA1-RM204-090911
Sample Location: LAWRENCE, MA

Date Collected: 09/09/11 18:22
Date Received: 09/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl3-BZ#28	4.29	JB	ng/cart	5.00	2.50	1
Cl3-BZ#33	ND		ng/cart	5.00	2.50	1
Cl4-BZ#51	ND		ng/cart	5.00	2.50	1
Cl3-BZ#21/#20	ND		ng/cart	10.0	5.00	1
Cl4-BZ#45	ND		ng/cart	5.00	2.50	1
Cl3-BZ#22	ND		ng/cart	5.00	2.50	1
Cl4-BZ#73/#46	ND		ng/cart	10.0	5.00	1
Cl4-BZ#69	ND		ng/cart	5.00	2.50	1
Cl4-BZ#43	ND		ng/cart	5.00	2.50	1
Cl3-BZ#36	ND		ng/cart	5.00	2.50	1
Cl4-BZ#52	21.9	B	ng/cart	5.00	2.50	1
Cl4-BZ#48	ND		ng/cart	5.00	2.50	1
Cl4-BZ#49	5.13	B	ng/cart	5.00	2.50	1
Cl5-BZ#104	ND		ng/cart	5.00	2.50	1
Cl4-BZ#47	ND		ng/cart	5.00	2.50	1
Cl4-BZ#65/#75/#62	ND		ng/cart	15.0	7.50	1
Cl3-BZ#39	ND		ng/cart	5.00	2.50	1
Cl3-BZ#38	ND		ng/cart	5.00	2.50	1
Cl4-BZ#44	9.31	B	ng/cart	5.00	2.50	1
Cl4-BZ#59	ND		ng/cart	5.00	2.50	1
Cl4-BZ#42	ND		ng/cart	5.00	2.50	1
Cl4-BZ#71	ND		ng/cart	5.00	2.50	1
Cl3-BZ#35	ND		ng/cart	5.00	2.50	1
Cl4-BZ#41	ND		ng/cart	5.00	2.50	1
Cl4-BZ#72	ND		ng/cart	5.00	2.50	1
Cl5-BZ#96	ND		ng/cart	5.00	2.50	1
Cl5-BZ#103	ND		ng/cart	5.00	2.50	1
Cl4-BZ#68/#64	ND		ng/cart	10.0	5.00	1
Cl4-BZ#40	ND		ng/cart	5.00	2.50	1
Cl3-BZ#37	ND		ng/cart	5.00	2.50	1
Cl5-BZ#100	ND		ng/cart	5.00	2.50	1
Cl5-BZ#94	ND		ng/cart	5.00	2.50	1
Cl4-BZ#57	ND		ng/cart	5.00	2.50	1
Cl4-BZ#67/#58	ND		ng/cart	10.0	5.00	1
Cl5-BZ#102	ND		ng/cart	5.00	2.50	1
Cl4-BZ#61	ND		ng/cart	5.00	2.50	1
Cl5-BZ#98	ND		ng/cart	5.00	2.50	1
Cl4-BZ#76	ND		ng/cart	5.00	2.50	1
Cl5-BZ#93	ND		ng/cart	5.00	2.50	1

Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

SAMPLE RESULTS

Lab ID: L1114221-01
Client ID: IA1-RM204-090911
Sample Location: LAWRENCE, MA

Date Collected: 09/09/11 18:22
Date Received: 09/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl4-BZ#63	ND		ng/cart	5.00	2.50	1
Cl5-BZ#121/#95/#88	17.1	B	ng/cart	15.0	7.50	1
Cl4-BZ#74	ND		ng/cart	5.00	2.50	1
Cl6-BZ#155	ND		ng/cart	5.00	2.50	1
Cl4-BZ#70	5.72	B	ng/cart	5.00	2.50	1
Cl5-BZ#91	ND		ng/cart	5.00	2.50	1
Cl4-BZ#66	ND		ng/cart	5.00	2.50	1
Cl4-BZ#80	ND		ng/cart	5.00	2.50	1
Cl4-BZ#55	ND		ng/cart	5.00	2.50	1
Cl5-BZ#92	2.84	J	ng/cart	5.00	2.50	1
Cl5-BZ#89/#84	ND		ng/cart	10.0	5.00	1
Cl5-BZ#101/#90	13.6	B	ng/cart	10.0	5.00	1
Cl4-BZ#56	ND		ng/cart	5.00	2.50	1
Cl5-BZ#113	ND		ng/cart	5.00	2.50	1
Cl5-BZ#99	4.40	JB	ng/cart	5.00	2.50	1
Cl6-BZ#150	ND		ng/cart	5.00	2.50	1
Cl4-BZ#60	ND		ng/cart	5.00	2.50	1
Cl6-BZ#152	ND		ng/cart	5.00	2.50	1
Cl5-BZ#119	ND		ng/cart	5.00	2.50	1
Cl5-BZ#83/#125/#112	ND		ng/cart	15.0	7.50	1
Cl5-BZ#86/#109	ND		ng/cart	10.0	5.00	1
Cl5-BZ#97	3.01	J	ng/cart	5.00	2.50	1
Cl5-BZ#116	ND		ng/cart	5.00	2.50	1
Cl5-BZ#87/#111	ND		ng/cart	10.0	5.00	1
Cl6-BZ#145	ND		ng/cart	5.00	2.50	1
Cl6-BZ#148	ND		ng/cart	5.00	2.50	1
Cl4-BZ#79	ND		ng/cart	5.00	2.50	1
Cl6-BZ#154	ND		ng/cart	5.00	2.50	1
Cl4-BZ#78	ND		ng/cart	5.00	2.50	1
Cl6-BZ#136	2.73	J	ng/cart	5.00	2.50	1
Cl5-BZ#117	ND		ng/cart	5.00	2.50	1
Cl5-BZ#115	ND		ng/cart	5.00	2.50	1
Cl5-BZ#85	ND		ng/cart	5.00	2.50	1
Cl5-BZ#120	ND		ng/cart	5.00	2.50	1
Cl5-BZ#110	7.33	B	ng/cart	5.00	2.50	1
Cl4-BZ#81	ND		ng/cart	5.00	2.50	1
Cl6-BZ#151	3.78	JB	ng/cart	5.00	2.50	1
Cl6-BZ#135	ND		ng/cart	5.00	2.50	1
Cl5-BZ#82	ND		ng/cart	5.00	2.50	1

Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

SAMPLE RESULTS

Lab ID: L1114221-01
Client ID: IA1-RM204-090911
Sample Location: LAWRENCE, MA

Date Collected: 09/09/11 18:22
Date Received: 09/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl6-BZ#144	ND		ng/cart	5.00	2.50	1
Cl6-BZ#147/#149	5.94	JB	ng/cart	10.0	5.00	1
Cl4-BZ#77	ND		ng/cart	5.00	2.50	1
Cl6-BZ#143/#139	ND		ng/cart	10.0	5.00	1
Cl5-BZ#124	ND		ng/cart	5.00	2.50	1
Cl6-BZ#140	ND		ng/cart	5.00	2.50	1
Cl5-BZ#108	ND		ng/cart	5.00	2.50	1
Cl5-BZ#107/#123	ND		ng/cart	10.0	5.00	1
Cl7-BZ#188	ND		ng/cart	5.00	2.50	1
Cl6-BZ#134	ND		ng/cart	5.00	2.50	1
Cl5-BZ#106	ND		ng/cart	5.00	2.50	1
Cl6-BZ#133	ND		ng/cart	5.00	2.50	1
Cl6-BZ#142	ND		ng/cart	5.00	2.50	1
Cl5-BZ#118	2.55	JB	ng/cart	5.00	2.50	1
Cl6-BZ#131	ND		ng/cart	5.00	2.50	1
Cl7-BZ#184	ND		ng/cart	5.00	2.50	1
Cl6-BZ#165	ND		ng/cart	5.00	2.50	1
Cl6-BZ#146	ND		ng/cart	5.00	2.50	1
Cl6-BZ#161	ND		ng/cart	5.00	2.50	1
Cl5-BZ#122	ND		ng/cart	5.00	2.50	1
Cl6-BZ#168	ND		ng/cart	5.00	2.50	1
Cl5-BZ#114	ND		ng/cart	5.00	2.50	1
Cl6-BZ#153	3.49	JB	ng/cart	5.00	2.50	1
Cl6-BZ#132	ND		ng/cart	5.00	2.50	1
Cl7-BZ#179	ND		ng/cart	5.00	2.50	1
Cl6-BZ#141	ND		ng/cart	5.00	2.50	1
Cl7-BZ#176	ND		ng/cart	5.00	2.50	1
Cl5-BZ#105	ND		ng/cart	5.00	2.50	1
Cl6-BZ#137	ND		ng/cart	5.00	2.50	1
Cl5-BZ#127	ND		ng/cart	5.00	2.50	1
Cl7-BZ#186	ND		ng/cart	5.00	2.50	1
Cl6-BZ#130/#164	ND		ng/cart	10.0	5.00	1
Cl7-BZ#178	ND		ng/cart	5.00	2.50	1
Cl6-BZ#138	ND		ng/cart	5.00	2.50	1
Cl6-BZ#163/#160	ND		ng/cart	10.0	5.00	1
Cl6-BZ#129/#158	ND		ng/cart	10.0	5.00	1
Cl7-BZ#182/#175	ND		ng/cart	10.0	5.00	1
Cl7-BZ#187	ND		ng/cart	5.00	2.50	1
Cl7-BZ#183	ND		ng/cart	5.00	2.50	1

Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

SAMPLE RESULTS

Lab ID: L1114221-01
Client ID: IA1-RM204-090911
Sample Location: LAWRENCE, MA

Date Collected: 09/09/11 18:22
Date Received: 09/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl6-BZ#166	ND		ng/cart	5.00	2.50	1
Cl6-BZ#159	ND		ng/cart	5.00	2.50	1
Cl5-BZ#126	ND		ng/cart	5.00	2.50	1
Cl7-BZ#185	ND		ng/cart	5.00	2.50	1
Cl6-BZ#162	ND		ng/cart	5.00	2.50	1
Cl7-BZ#174	ND		ng/cart	5.00	2.50	1
Cl6-BZ#128	ND		ng/cart	5.00	2.50	1
Cl6-BZ#167	ND		ng/cart	5.00	2.50	1
Cl8-BZ#202	ND		ng/cart	5.00	2.50	1
Cl7-BZ#181	ND		ng/cart	5.00	2.50	1
Cl7-BZ#177	ND		ng/cart	5.00	2.50	1
Cl8-BZ#204/#200-CAL	ND		ng/cart	10.0	5.00	1
Cl7-BZ#171	ND		ng/cart	5.00	2.50	1
Cl7-BZ#173	ND		ng/cart	5.00	2.50	1
Cl8-BZ#197	ND		ng/cart	5.00	2.50	1
Cl7-BZ#172	ND		ng/cart	5.00	2.50	1
Cl7-BZ#192	ND		ng/cart	5.00	2.50	1
Cl6-BZ#156	ND		ng/cart	5.00	2.50	1
Cl6-BZ#157	ND		ng/cart	5.00	2.50	1
Cl7-BZ#180	ND		ng/cart	5.00	2.50	1
Cl7-BZ#193	ND		ng/cart	5.00	2.50	1
Cl8-BZ#199	ND		ng/cart	5.00	2.50	1
Cl7-BZ#191	ND		ng/cart	5.00	2.50	1
Cl8-BZ#198	ND		ng/cart	5.00	2.50	1
Cl8-BZ#201	ND		ng/cart	5.00	2.50	1
Cl7-BZ#170	ND		ng/cart	5.00	2.50	1
Cl7-BZ#190	ND		ng/cart	5.00	2.50	1
Cl8-BZ#196	ND		ng/cart	5.00	2.50	1
Cl8-BZ#203	ND		ng/cart	5.00	2.50	1
Cl6-BZ#169	ND		ng/cart	5.00	2.50	1
Cl9-BZ#208	ND		ng/cart	5.00	2.50	1
Cl9-BZ#207	ND		ng/cart	5.00	2.50	1
Cl7-BZ#189	ND		ng/cart	5.00	2.50	1
Cl8-BZ#195	ND		ng/cart	5.00	2.50	1
Cl8-BZ#194	ND		ng/cart	5.00	2.50	1
Cl8-BZ#205	ND		ng/cart	5.00	2.50	1
Cl9-BZ#206	ND		ng/cart	5.00	2.50	1
Cl10-BZ#209	ND		ng/cart	5.00	2.50	1
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	1



Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

SAMPLE RESULTS

Lab ID: L1114221-01
Client ID: IA1-RM204-090911
Sample Location: LAWRENCE, MA

Date Collected: 09/09/11 18:22
Date Received: 09/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Dichlorobiphenyls	14.2	B	ng/cart	5.00	2.50	1
Trichlorobiphenyls	23.9	B	ng/cart	5.00	2.50	1
Tetrachlorobiphenyls	42.1	B	ng/cart	5.00	2.50	1
Pentachlorobiphenyls	50.8	B	ng/cart	5.00	2.50	1
Hexachlorobiphenyls	15.9	B	ng/cart	5.00	2.50	1
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50	1
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	1
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	1
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	1
Total Homologs	147	B	ng/cart	5.00	2.50	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	87		50-125
Cl8-BZ#202-C13	75		50-125

Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

SAMPLE RESULTS

Lab ID: L1114221-02
 Client ID: IA1-SFH-090911
 Sample Location: LAWRENCE, MA
 Matrix: Air Cartridge
 Analytical Method: 105,680/8270C-SIM(M)
 Analytical Date: 09/30/11 23:00
 Analyst: JD

Date Collected: 09/09/11 18:39
 Date Received: 09/12/11
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 09/14/11 11:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl1-BZ#1	ND		ng/cart	5.00	2.50	1
Cl1-BZ#2	ND		ng/cart	5.00	2.50	1
Cl1-BZ#3	ND		ng/cart	5.00	2.50	1
Cl2-BZ#4/#10	ND		ng/cart	10.0	5.00	1
Cl2-BZ#9	ND		ng/cart	5.00	2.50	1
Cl2-BZ#7	ND		ng/cart	5.00	2.50	1
Cl2-BZ#6	ND		ng/cart	5.00	2.50	1
Cl2-BZ#5	ND		ng/cart	5.00	2.50	1
Cl2-BZ#8	7.62	B	ng/cart	5.00	2.50	1
Cl3-BZ#19	ND		ng/cart	5.00	2.50	1
Cl2-BZ#14	ND		ng/cart	5.00	2.50	1
Cl3-BZ#30	ND		ng/cart	5.00	2.50	1
Cl3-BZ#18	7.32	B	ng/cart	5.00	2.50	1
Cl2-BZ#11	ND		ng/cart	5.00	2.50	1
Cl3-BZ#17	3.27	J	ng/cart	5.00	2.50	1
Cl2-BZ#12	ND		ng/cart	5.00	2.50	1
Cl3-BZ#27	ND		ng/cart	5.00	2.50	1
Cl2-BZ#13	ND		ng/cart	5.00	2.50	1
Cl3-BZ#24	ND		ng/cart	5.00	2.50	1
Cl3-BZ#16	3.22	J	ng/cart	5.00	2.50	1
Cl3-BZ#32	ND		ng/cart	5.00	2.50	1
Cl2-BZ#15	ND		ng/cart	5.00	2.50	1
Cl3-BZ#34	ND		ng/cart	5.00	2.50	1
Cl3-BZ#23	ND		ng/cart	5.00	2.50	1
Cl4-BZ#54	ND		ng/cart	5.00	2.50	1
Cl3-BZ#29	ND		ng/cart	5.00	2.50	1
Cl4-BZ#50	ND		ng/cart	5.00	2.50	1
Cl3-BZ#26	ND		ng/cart	5.00	2.50	1
Cl3-BZ#25	ND		ng/cart	5.00	2.50	1
Cl4-BZ#53	ND		ng/cart	5.00	2.50	1
Cl3-BZ#-31	3.49	JB	ng/cart	5.00	2.50	1

Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

SAMPLE RESULTS

Lab ID: L1114221-02
Client ID: IA1-SFH-090911
Sample Location: LAWRENCE, MA

Date Collected: 09/09/11 18:39
Date Received: 09/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl3-BZ#28	2.58	JB	ng/cart	5.00	2.50	1
Cl3-BZ#33	ND		ng/cart	5.00	2.50	1
Cl4-BZ#51	ND		ng/cart	5.00	2.50	1
Cl3-BZ#21/#20	ND		ng/cart	10.0	5.00	1
Cl4-BZ#45	ND		ng/cart	5.00	2.50	1
Cl3-BZ#22	ND		ng/cart	5.00	2.50	1
Cl4-BZ#73/#46	ND		ng/cart	10.0	5.00	1
Cl4-BZ#69	ND		ng/cart	5.00	2.50	1
Cl4-BZ#43	ND		ng/cart	5.00	2.50	1
Cl3-BZ#36	ND		ng/cart	5.00	2.50	1
Cl4-BZ#52	29.9	B	ng/cart	5.00	2.50	1
Cl4-BZ#48	ND		ng/cart	5.00	2.50	1
Cl4-BZ#49	6.38	B	ng/cart	5.00	2.50	1
Cl5-BZ#104	ND		ng/cart	5.00	2.50	1
Cl4-BZ#47	ND		ng/cart	5.00	2.50	1
Cl4-BZ#65/#75/#62	ND		ng/cart	15.0	7.50	1
Cl3-BZ#39	ND		ng/cart	5.00	2.50	1
Cl3-BZ#38	ND		ng/cart	5.00	2.50	1
Cl4-BZ#44	12.6	B	ng/cart	5.00	2.50	1
Cl4-BZ#59	ND		ng/cart	5.00	2.50	1
Cl4-BZ#42	ND		ng/cart	5.00	2.50	1
Cl4-BZ#71	ND		ng/cart	5.00	2.50	1
Cl3-BZ#35	ND		ng/cart	5.00	2.50	1
Cl4-BZ#41	ND		ng/cart	5.00	2.50	1
Cl4-BZ#72	ND		ng/cart	5.00	2.50	1
Cl5-BZ#96	ND		ng/cart	5.00	2.50	1
Cl5-BZ#103	ND		ng/cart	5.00	2.50	1
Cl4-BZ#68/#64	ND		ng/cart	10.0	5.00	1
Cl4-BZ#40	ND		ng/cart	5.00	2.50	1
Cl3-BZ#37	ND		ng/cart	5.00	2.50	1
Cl5-BZ#100	ND		ng/cart	5.00	2.50	1
Cl5-BZ#94	ND		ng/cart	5.00	2.50	1
Cl4-BZ#57	ND		ng/cart	5.00	2.50	1
Cl4-BZ#67/#58	ND		ng/cart	10.0	5.00	1
Cl5-BZ#102	ND		ng/cart	5.00	2.50	1
Cl4-BZ#61	ND		ng/cart	5.00	2.50	1
Cl5-BZ#98	ND		ng/cart	5.00	2.50	1
Cl4-BZ#76	ND		ng/cart	5.00	2.50	1
Cl5-BZ#93	ND		ng/cart	5.00	2.50	1



Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

SAMPLE RESULTS

Lab ID: L1114221-02
Client ID: IA1-SFH-090911
Sample Location: LAWRENCE, MA

Date Collected: 09/09/11 18:39
Date Received: 09/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl4-BZ#63	ND		ng/cart	5.00	2.50	1
Cl5-BZ#121/#95/#88	19.7	B	ng/cart	15.0	7.50	1
Cl4-BZ#74	2.90	JB	ng/cart	5.00	2.50	1
Cl6-BZ#155	ND		ng/cart	5.00	2.50	1
Cl4-BZ#70	7.96	B	ng/cart	5.00	2.50	1
Cl5-BZ#91	3.32	J	ng/cart	5.00	2.50	1
Cl4-BZ#66	3.64	JB	ng/cart	5.00	2.50	1
Cl4-BZ#80	ND		ng/cart	5.00	2.50	1
Cl4-BZ#55	ND		ng/cart	5.00	2.50	1
Cl5-BZ#92	3.41	J	ng/cart	5.00	2.50	1
Cl5-BZ#89/#84	6.90	J	ng/cart	10.0	5.00	1
Cl5-BZ#101/#90	17.4	B	ng/cart	10.0	5.00	1
Cl4-BZ#56	ND		ng/cart	5.00	2.50	1
Cl5-BZ#113	ND		ng/cart	5.00	2.50	1
Cl5-BZ#99	6.77	B	ng/cart	5.00	2.50	1
Cl6-BZ#150	ND		ng/cart	5.00	2.50	1
Cl4-BZ#60	ND		ng/cart	5.00	2.50	1
Cl6-BZ#152	ND		ng/cart	5.00	2.50	1
Cl5-BZ#119	ND		ng/cart	5.00	2.50	1
Cl5-BZ#83/#125/#112	ND		ng/cart	15.0	7.50	1
Cl5-BZ#86/#109	ND		ng/cart	10.0	5.00	1
Cl5-BZ#97	4.45	J	ng/cart	5.00	2.50	1
Cl5-BZ#116	ND		ng/cart	5.00	2.50	1
Cl5-BZ#87/#111	ND		ng/cart	10.0	5.00	1
Cl6-BZ#145	ND		ng/cart	5.00	2.50	1
Cl6-BZ#148	ND		ng/cart	5.00	2.50	1
Cl4-BZ#79	ND		ng/cart	5.00	2.50	1
Cl6-BZ#154	ND		ng/cart	5.00	2.50	1
Cl4-BZ#78	ND		ng/cart	5.00	2.50	1
Cl6-BZ#136	ND		ng/cart	5.00	2.50	1
Cl5-BZ#117	ND		ng/cart	5.00	2.50	1
Cl5-BZ#115	ND		ng/cart	5.00	2.50	1
Cl5-BZ#85	ND		ng/cart	5.00	2.50	1
Cl5-BZ#120	ND		ng/cart	5.00	2.50	1
Cl5-BZ#110	10.6	B	ng/cart	5.00	2.50	1
Cl4-BZ#81	ND		ng/cart	5.00	2.50	1
Cl6-BZ#151	ND		ng/cart	5.00	2.50	1
Cl6-BZ#135	ND		ng/cart	5.00	2.50	1
Cl5-BZ#82	ND		ng/cart	5.00	2.50	1



Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

SAMPLE RESULTS

Lab ID: L1114221-02
Client ID: IA1-SFH-090911
Sample Location: LAWRENCE, MA

Date Collected: 09/09/11 18:39
Date Received: 09/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl6-BZ#144	ND		ng/cart	5.00	2.50	1
Cl6-BZ#147/#149	7.43	JB	ng/cart	10.0	5.00	1
Cl4-BZ#77	ND		ng/cart	5.00	2.50	1
Cl6-BZ#143/#139	ND		ng/cart	10.0	5.00	1
Cl5-BZ#124	ND		ng/cart	5.00	2.50	1
Cl6-BZ#140	ND		ng/cart	5.00	2.50	1
Cl5-BZ#108	ND		ng/cart	5.00	2.50	1
Cl5-BZ#107/#123	ND		ng/cart	10.0	5.00	1
Cl7-BZ#188	ND		ng/cart	5.00	2.50	1
Cl6-BZ#134	ND		ng/cart	5.00	2.50	1
Cl5-BZ#106	ND		ng/cart	5.00	2.50	1
Cl6-BZ#133	ND		ng/cart	5.00	2.50	1
Cl6-BZ#142	ND		ng/cart	5.00	2.50	1
Cl5-BZ#118	4.17	JB	ng/cart	5.00	2.50	1
Cl6-BZ#131	ND		ng/cart	5.00	2.50	1
Cl7-BZ#184	ND		ng/cart	5.00	2.50	1
Cl6-BZ#165	ND		ng/cart	5.00	2.50	1
Cl6-BZ#146	ND		ng/cart	5.00	2.50	1
Cl6-BZ#161	ND		ng/cart	5.00	2.50	1
Cl5-BZ#122	ND		ng/cart	5.00	2.50	1
Cl6-BZ#168	ND		ng/cart	5.00	2.50	1
Cl5-BZ#114	ND		ng/cart	5.00	2.50	1
Cl6-BZ#153	4.28	JB	ng/cart	5.00	2.50	1
Cl6-BZ#132	ND		ng/cart	5.00	2.50	1
Cl7-BZ#179	ND		ng/cart	5.00	2.50	1
Cl6-BZ#141	ND		ng/cart	5.00	2.50	1
Cl7-BZ#176	ND		ng/cart	5.00	2.50	1
Cl5-BZ#105	ND		ng/cart	5.00	2.50	1
Cl6-BZ#137	ND		ng/cart	5.00	2.50	1
Cl5-BZ#127	ND		ng/cart	5.00	2.50	1
Cl7-BZ#186	ND		ng/cart	5.00	2.50	1
Cl6-BZ#130/#164	ND		ng/cart	10.0	5.00	1
Cl7-BZ#178	ND		ng/cart	5.00	2.50	1
Cl6-BZ#138	ND		ng/cart	5.00	2.50	1
Cl6-BZ#163/#160	ND		ng/cart	10.0	5.00	1
Cl6-BZ#129/#158	ND		ng/cart	10.0	5.00	1
Cl7-BZ#182/#175	ND		ng/cart	10.0	5.00	1
Cl7-BZ#187	ND		ng/cart	5.00	2.50	1
Cl7-BZ#183	ND		ng/cart	5.00	2.50	1

Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

SAMPLE RESULTS

Lab ID: L1114221-02
Client ID: IA1-SFH-090911
Sample Location: LAWRENCE, MA

Date Collected: 09/09/11 18:39
Date Received: 09/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl6-BZ#166	ND		ng/cart	5.00	2.50	1
Cl6-BZ#159	ND		ng/cart	5.00	2.50	1
Cl5-BZ#126	ND		ng/cart	5.00	2.50	1
Cl7-BZ#185	ND		ng/cart	5.00	2.50	1
Cl6-BZ#162	ND		ng/cart	5.00	2.50	1
Cl7-BZ#174	ND		ng/cart	5.00	2.50	1
Cl6-BZ#128	ND		ng/cart	5.00	2.50	1
Cl6-BZ#167	ND		ng/cart	5.00	2.50	1
Cl8-BZ#202	ND		ng/cart	5.00	2.50	1
Cl7-BZ#181	ND		ng/cart	5.00	2.50	1
Cl7-BZ#177	ND		ng/cart	5.00	2.50	1
Cl8-BZ#204/#200-CAL	ND		ng/cart	10.0	5.00	1
Cl7-BZ#171	ND		ng/cart	5.00	2.50	1
Cl7-BZ#173	ND		ng/cart	5.00	2.50	1
Cl8-BZ#197	ND		ng/cart	5.00	2.50	1
Cl7-BZ#172	ND		ng/cart	5.00	2.50	1
Cl7-BZ#192	ND		ng/cart	5.00	2.50	1
Cl6-BZ#156	ND		ng/cart	5.00	2.50	1
Cl6-BZ#157	ND		ng/cart	5.00	2.50	1
Cl7-BZ#180	ND		ng/cart	5.00	2.50	1
Cl7-BZ#193	ND		ng/cart	5.00	2.50	1
Cl8-BZ#199	ND		ng/cart	5.00	2.50	1
Cl7-BZ#191	ND		ng/cart	5.00	2.50	1
Cl8-BZ#198	ND		ng/cart	5.00	2.50	1
Cl8-BZ#201	ND		ng/cart	5.00	2.50	1
Cl7-BZ#170	ND		ng/cart	5.00	2.50	1
Cl7-BZ#190	ND		ng/cart	5.00	2.50	1
Cl8-BZ#196	ND		ng/cart	5.00	2.50	1
Cl8-BZ#203	ND		ng/cart	5.00	2.50	1
Cl6-BZ#169	ND		ng/cart	5.00	2.50	1
Cl9-BZ#208	ND		ng/cart	5.00	2.50	1
Cl9-BZ#207	ND		ng/cart	5.00	2.50	1
Cl7-BZ#189	ND		ng/cart	5.00	2.50	1
Cl8-BZ#195	ND		ng/cart	5.00	2.50	1
Cl8-BZ#194	ND		ng/cart	5.00	2.50	1
Cl8-BZ#205	ND		ng/cart	5.00	2.50	1
Cl9-BZ#206	ND		ng/cart	5.00	2.50	1
Cl10-BZ#209	ND		ng/cart	5.00	2.50	1
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	1

Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

SAMPLE RESULTS

Lab ID: L1114221-02
Client ID: IA1-SFH-090911
Sample Location: LAWRENCE, MA

Date Collected: 09/09/11 18:39
Date Received: 09/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Dichlorobiphenyls	7.62	B	ng/cart	5.00	2.50	1
Trichlorobiphenyls	19.9	B	ng/cart	5.00	2.50	1
Tetrachlorobiphenyls	63.4	B	ng/cart	5.00	2.50	1
Pentachlorobiphenyls	76.7	B	ng/cart	5.00	2.50	1
Hexachlorobiphenyls	11.7	B	ng/cart	5.00	2.50	1
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50	1
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	1
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	1
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	1
Total Homologs	179	B	ng/cart	5.00	2.50	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	88		50-125
Cl8-BZ#202-C13	74		50-125

Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

SAMPLE RESULTS

Lab ID: L1114221-03
 Client ID: IA1-FFH-090911
 Sample Location: LAWRENCE, MA
 Matrix: Air Cartridge
 Analytical Method: 105,680/8270C-SIM(M)
 Analytical Date: 10/01/11 00:07
 Analyst: JD

Date Collected: 09/09/11 18:54
 Date Received: 09/12/11
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 09/14/11 11:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl1-BZ#1	ND		ng/cart	5.00	2.50	1
Cl1-BZ#2	ND		ng/cart	5.00	2.50	1
Cl1-BZ#3	ND		ng/cart	5.00	2.50	1
Cl2-BZ#4/#10	ND		ng/cart	10.0	5.00	1
Cl2-BZ#9	ND		ng/cart	5.00	2.50	1
Cl2-BZ#7	ND		ng/cart	5.00	2.50	1
Cl2-BZ#6	ND		ng/cart	5.00	2.50	1
Cl2-BZ#5	ND		ng/cart	5.00	2.50	1
Cl2-BZ#8	6.80	B	ng/cart	5.00	2.50	1
Cl3-BZ#19	ND		ng/cart	5.00	2.50	1
Cl2-BZ#14	ND		ng/cart	5.00	2.50	1
Cl3-BZ#30	ND		ng/cart	5.00	2.50	1
Cl3-BZ#18	6.17	B	ng/cart	5.00	2.50	1
Cl2-BZ#11	ND		ng/cart	5.00	2.50	1
Cl3-BZ#17	3.31	J	ng/cart	5.00	2.50	1
Cl2-BZ#12	ND		ng/cart	5.00	2.50	1
Cl3-BZ#27	ND		ng/cart	5.00	2.50	1
Cl2-BZ#13	ND		ng/cart	5.00	2.50	1
Cl3-BZ#24	ND		ng/cart	5.00	2.50	1
Cl3-BZ#16	2.58	J	ng/cart	5.00	2.50	1
Cl3-BZ#32	ND		ng/cart	5.00	2.50	1
Cl2-BZ#15	ND		ng/cart	5.00	2.50	1
Cl3-BZ#34	ND		ng/cart	5.00	2.50	1
Cl3-BZ#23	ND		ng/cart	5.00	2.50	1
Cl4-BZ#54	ND		ng/cart	5.00	2.50	1
Cl3-BZ#29	ND		ng/cart	5.00	2.50	1
Cl4-BZ#50	ND		ng/cart	5.00	2.50	1
Cl3-BZ#26	ND		ng/cart	5.00	2.50	1
Cl3-BZ#25	ND		ng/cart	5.00	2.50	1
Cl4-BZ#53	ND		ng/cart	5.00	2.50	1
Cl3-BZ#-31	3.82	JB	ng/cart	5.00	2.50	1



Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

SAMPLE RESULTS

Lab ID: L1114221-03
Client ID: IA1-FFH-090911
Sample Location: LAWRENCE, MA

Date Collected: 09/09/11 18:54
Date Received: 09/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl3-BZ#28	3.62	JB	ng/cart	5.00	2.50	1
Cl3-BZ#33	ND		ng/cart	5.00	2.50	1
Cl4-BZ#51	ND		ng/cart	5.00	2.50	1
Cl3-BZ#21/#20	ND		ng/cart	10.0	5.00	1
Cl4-BZ#45	ND		ng/cart	5.00	2.50	1
Cl3-BZ#22	ND		ng/cart	5.00	2.50	1
Cl4-BZ#73/#46	ND		ng/cart	10.0	5.00	1
Cl4-BZ#69	ND		ng/cart	5.00	2.50	1
Cl4-BZ#43	ND		ng/cart	5.00	2.50	1
Cl3-BZ#36	ND		ng/cart	5.00	2.50	1
Cl4-BZ#52	26.8	B	ng/cart	5.00	2.50	1
Cl4-BZ#48	ND		ng/cart	5.00	2.50	1
Cl4-BZ#49	6.51	B	ng/cart	5.00	2.50	1
Cl5-BZ#104	ND		ng/cart	5.00	2.50	1
Cl4-BZ#47	ND		ng/cart	5.00	2.50	1
Cl4-BZ#65/#75/#62	ND		ng/cart	15.0	7.50	1
Cl3-BZ#39	ND		ng/cart	5.00	2.50	1
Cl3-BZ#38	ND		ng/cart	5.00	2.50	1
Cl4-BZ#44	10.3	B	ng/cart	5.00	2.50	1
Cl4-BZ#59	ND		ng/cart	5.00	2.50	1
Cl4-BZ#42	ND		ng/cart	5.00	2.50	1
Cl4-BZ#71	ND		ng/cart	5.00	2.50	1
Cl3-BZ#35	ND		ng/cart	5.00	2.50	1
Cl4-BZ#41	ND		ng/cart	5.00	2.50	1
Cl4-BZ#72	ND		ng/cart	5.00	2.50	1
Cl5-BZ#96	ND		ng/cart	5.00	2.50	1
Cl5-BZ#103	ND		ng/cart	5.00	2.50	1
Cl4-BZ#68/#64	ND		ng/cart	10.0	5.00	1
Cl4-BZ#40	ND		ng/cart	5.00	2.50	1
Cl3-BZ#37	ND		ng/cart	5.00	2.50	1
Cl5-BZ#100	ND		ng/cart	5.00	2.50	1
Cl5-BZ#94	ND		ng/cart	5.00	2.50	1
Cl4-BZ#57	ND		ng/cart	5.00	2.50	1
Cl4-BZ#67/#58	ND		ng/cart	10.0	5.00	1
Cl5-BZ#102	ND		ng/cart	5.00	2.50	1
Cl4-BZ#61	ND		ng/cart	5.00	2.50	1
Cl5-BZ#98	ND		ng/cart	5.00	2.50	1
Cl4-BZ#76	ND		ng/cart	5.00	2.50	1
Cl5-BZ#93	ND		ng/cart	5.00	2.50	1



Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

SAMPLE RESULTS

Lab ID: L1114221-03
Client ID: IA1-FFH-090911
Sample Location: LAWRENCE, MA

Date Collected: 09/09/11 18:54
Date Received: 09/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl4-BZ#63	ND		ng/cart	5.00	2.50	1
Cl5-BZ#121/#95/#88	17.2	B	ng/cart	15.0	7.50	1
Cl4-BZ#74	ND		ng/cart	5.00	2.50	1
Cl6-BZ#155	ND		ng/cart	5.00	2.50	1
Cl4-BZ#70	6.28	B	ng/cart	5.00	2.50	1
Cl5-BZ#91	2.69	J	ng/cart	5.00	2.50	1
Cl4-BZ#66	ND		ng/cart	5.00	2.50	1
Cl4-BZ#80	ND		ng/cart	5.00	2.50	1
Cl4-BZ#55	ND		ng/cart	5.00	2.50	1
Cl5-BZ#92	ND		ng/cart	5.00	2.50	1
Cl5-BZ#89/#84	6.30	J	ng/cart	10.0	5.00	1
Cl5-BZ#101/#90	11.9	B	ng/cart	10.0	5.00	1
Cl4-BZ#56	ND		ng/cart	5.00	2.50	1
Cl5-BZ#113	ND		ng/cart	5.00	2.50	1
Cl5-BZ#99	5.26	B	ng/cart	5.00	2.50	1
Cl6-BZ#150	ND		ng/cart	5.00	2.50	1
Cl4-BZ#60	ND		ng/cart	5.00	2.50	1
Cl6-BZ#152	ND		ng/cart	5.00	2.50	1
Cl5-BZ#119	ND		ng/cart	5.00	2.50	1
Cl5-BZ#83/#125/#112	ND		ng/cart	15.0	7.50	1
Cl5-BZ#86/#109	ND		ng/cart	10.0	5.00	1
Cl5-BZ#97	3.76	J	ng/cart	5.00	2.50	1
Cl5-BZ#116	ND		ng/cart	5.00	2.50	1
Cl5-BZ#87/#111	ND		ng/cart	10.0	5.00	1
Cl6-BZ#145	ND		ng/cart	5.00	2.50	1
Cl6-BZ#148	ND		ng/cart	5.00	2.50	1
Cl4-BZ#79	ND		ng/cart	5.00	2.50	1
Cl6-BZ#154	ND		ng/cart	5.00	2.50	1
Cl4-BZ#78	ND		ng/cart	5.00	2.50	1
Cl6-BZ#136	ND		ng/cart	5.00	2.50	1
Cl5-BZ#117	ND		ng/cart	5.00	2.50	1
Cl5-BZ#115	ND		ng/cart	5.00	2.50	1
Cl5-BZ#85	ND		ng/cart	5.00	2.50	1
Cl5-BZ#120	ND		ng/cart	5.00	2.50	1
Cl5-BZ#110	8.25	B	ng/cart	5.00	2.50	1
Cl4-BZ#81	ND		ng/cart	5.00	2.50	1
Cl6-BZ#151	ND		ng/cart	5.00	2.50	1
Cl6-BZ#135	ND		ng/cart	5.00	2.50	1
Cl5-BZ#82	ND		ng/cart	5.00	2.50	1



Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

SAMPLE RESULTS

Lab ID: L1114221-03
Client ID: IA1-FFH-090911
Sample Location: LAWRENCE, MA

Date Collected: 09/09/11 18:54
Date Received: 09/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl6-BZ#144	ND		ng/cart	5.00	2.50	1
Cl6-BZ#147/#149	ND		ng/cart	10.0	5.00	1
Cl4-BZ#77	ND		ng/cart	5.00	2.50	1
Cl6-BZ#143/#139	ND		ng/cart	10.0	5.00	1
Cl5-BZ#124	ND		ng/cart	5.00	2.50	1
Cl6-BZ#140	ND		ng/cart	5.00	2.50	1
Cl5-BZ#108	ND		ng/cart	5.00	2.50	1
Cl5-BZ#107/#123	ND		ng/cart	10.0	5.00	1
Cl7-BZ#188	ND		ng/cart	5.00	2.50	1
Cl6-BZ#134	ND		ng/cart	5.00	2.50	1
Cl5-BZ#106	ND		ng/cart	5.00	2.50	1
Cl6-BZ#133	ND		ng/cart	5.00	2.50	1
Cl6-BZ#142	ND		ng/cart	5.00	2.50	1
Cl5-BZ#118	2.87	JB	ng/cart	5.00	2.50	1
Cl6-BZ#131	ND		ng/cart	5.00	2.50	1
Cl7-BZ#184	ND		ng/cart	5.00	2.50	1
Cl6-BZ#165	ND		ng/cart	5.00	2.50	1
Cl6-BZ#146	ND		ng/cart	5.00	2.50	1
Cl6-BZ#161	ND		ng/cart	5.00	2.50	1
Cl5-BZ#122	ND		ng/cart	5.00	2.50	1
Cl6-BZ#168	ND		ng/cart	5.00	2.50	1
Cl5-BZ#114	ND		ng/cart	5.00	2.50	1
Cl6-BZ#153	2.83	JB	ng/cart	5.00	2.50	1
Cl6-BZ#132	ND		ng/cart	5.00	2.50	1
Cl7-BZ#179	ND		ng/cart	5.00	2.50	1
Cl6-BZ#141	ND		ng/cart	5.00	2.50	1
Cl7-BZ#176	ND		ng/cart	5.00	2.50	1
Cl5-BZ#105	ND		ng/cart	5.00	2.50	1
Cl6-BZ#137	ND		ng/cart	5.00	2.50	1
Cl5-BZ#127	ND		ng/cart	5.00	2.50	1
Cl7-BZ#186	ND		ng/cart	5.00	2.50	1
Cl6-BZ#130/#164	ND		ng/cart	10.0	5.00	1
Cl7-BZ#178	ND		ng/cart	5.00	2.50	1
Cl6-BZ#138	ND		ng/cart	5.00	2.50	1
Cl6-BZ#163/#160	ND		ng/cart	10.0	5.00	1
Cl6-BZ#129/#158	ND		ng/cart	10.0	5.00	1
Cl7-BZ#182/#175	ND		ng/cart	10.0	5.00	1
Cl7-BZ#187	ND		ng/cart	5.00	2.50	1
Cl7-BZ#183	ND		ng/cart	5.00	2.50	1



Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

SAMPLE RESULTS

Lab ID: L1114221-03
Client ID: IA1-FFH-090911
Sample Location: LAWRENCE, MA

Date Collected: 09/09/11 18:54
Date Received: 09/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl6-BZ#166	ND		ng/cart	5.00	2.50	1
Cl6-BZ#159	ND		ng/cart	5.00	2.50	1
Cl5-BZ#126	ND		ng/cart	5.00	2.50	1
Cl7-BZ#185	ND		ng/cart	5.00	2.50	1
Cl6-BZ#162	ND		ng/cart	5.00	2.50	1
Cl7-BZ#174	ND		ng/cart	5.00	2.50	1
Cl6-BZ#128	ND		ng/cart	5.00	2.50	1
Cl6-BZ#167	ND		ng/cart	5.00	2.50	1
Cl8-BZ#202	ND		ng/cart	5.00	2.50	1
Cl7-BZ#181	ND		ng/cart	5.00	2.50	1
Cl7-BZ#177	ND		ng/cart	5.00	2.50	1
Cl8-BZ#204/#200-CAL	ND		ng/cart	10.0	5.00	1
Cl7-BZ#171	ND		ng/cart	5.00	2.50	1
Cl7-BZ#173	ND		ng/cart	5.00	2.50	1
Cl8-BZ#197	ND		ng/cart	5.00	2.50	1
Cl7-BZ#172	ND		ng/cart	5.00	2.50	1
Cl7-BZ#192	ND		ng/cart	5.00	2.50	1
Cl6-BZ#156	ND		ng/cart	5.00	2.50	1
Cl6-BZ#157	ND		ng/cart	5.00	2.50	1
Cl7-BZ#180	ND		ng/cart	5.00	2.50	1
Cl7-BZ#193	ND		ng/cart	5.00	2.50	1
Cl8-BZ#199	ND		ng/cart	5.00	2.50	1
Cl7-BZ#191	ND		ng/cart	5.00	2.50	1
Cl8-BZ#198	ND		ng/cart	5.00	2.50	1
Cl8-BZ#201	ND		ng/cart	5.00	2.50	1
Cl7-BZ#170	ND		ng/cart	5.00	2.50	1
Cl7-BZ#190	ND		ng/cart	5.00	2.50	1
Cl8-BZ#196	ND		ng/cart	5.00	2.50	1
Cl8-BZ#203	ND		ng/cart	5.00	2.50	1
Cl6-BZ#169	ND		ng/cart	5.00	2.50	1
Cl9-BZ#208	ND		ng/cart	5.00	2.50	1
Cl9-BZ#207	ND		ng/cart	5.00	2.50	1
Cl7-BZ#189	ND		ng/cart	5.00	2.50	1
Cl8-BZ#195	ND		ng/cart	5.00	2.50	1
Cl8-BZ#194	ND		ng/cart	5.00	2.50	1
Cl8-BZ#205	ND		ng/cart	5.00	2.50	1
Cl9-BZ#206	ND		ng/cart	5.00	2.50	1
Cl10-BZ#209	ND		ng/cart	5.00	2.50	1
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	1



Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

SAMPLE RESULTS

Lab ID: L1114221-03
Client ID: IA1-FFH-090911
Sample Location: LAWRENCE, MA

Date Collected: 09/09/11 18:54
Date Received: 09/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Dichlorobiphenyls	6.80	B	ng/cart	5.00	2.50	1
Trichlorobiphenyls	19.5	B	ng/cart	5.00	2.50	1
Tetrachlorobiphenyls	49.9	B	ng/cart	5.00	2.50	1
Pentachlorobiphenyls	58.2	B	ng/cart	5.00	2.50	1
Hexachlorobiphenyls	2.83	JB	ng/cart	5.00	2.50	1
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50	1
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	1
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	1
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	1
Total Homologs	137	B	ng/cart	5.00	2.50	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	96		50-125
Cl8-BZ#202-C13	83		50-125

Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

SAMPLE RESULTS

Lab ID: L1114221-04
 Client ID: IA1-GYM-090911
 Sample Location: LAWRENCE, MA
 Matrix: Air Cartridge
 Analytical Method: 105,680/8270C-SIM(M)
 Analytical Date: 10/01/11 01:14
 Analyst: JD

Date Collected: 09/09/11 19:05
 Date Received: 09/12/11
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 09/14/11 11:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl1-BZ#1	ND		ng/cart	5.00	2.50	1
Cl1-BZ#2	ND		ng/cart	5.00	2.50	1
Cl1-BZ#3	ND		ng/cart	5.00	2.50	1
Cl2-BZ#4/#10	6.21	JB	ng/cart	10.0	5.00	1
Cl2-BZ#9	ND		ng/cart	5.00	2.50	1
Cl2-BZ#7	ND		ng/cart	5.00	2.50	1
Cl2-BZ#6	ND		ng/cart	5.00	2.50	1
Cl2-BZ#5	ND		ng/cart	5.00	2.50	1
Cl2-BZ#8	11.3	B	ng/cart	5.00	2.50	1
Cl3-BZ#19	2.83	JB	ng/cart	5.00	2.50	1
Cl2-BZ#14	ND		ng/cart	5.00	2.50	1
Cl3-BZ#30	ND		ng/cart	5.00	2.50	1
Cl3-BZ#18	9.28	B	ng/cart	5.00	2.50	1
Cl2-BZ#11	ND		ng/cart	5.00	2.50	1
Cl3-BZ#17	2.74	J	ng/cart	5.00	2.50	1
Cl2-BZ#12	ND		ng/cart	5.00	2.50	1
Cl3-BZ#27	ND		ng/cart	5.00	2.50	1
Cl2-BZ#13	ND		ng/cart	5.00	2.50	1
Cl3-BZ#24	ND		ng/cart	5.00	2.50	1
Cl3-BZ#16	2.72	J	ng/cart	5.00	2.50	1
Cl3-BZ#32	ND		ng/cart	5.00	2.50	1
Cl2-BZ#15	ND		ng/cart	5.00	2.50	1
Cl3-BZ#34	ND		ng/cart	5.00	2.50	1
Cl3-BZ#23	ND		ng/cart	5.00	2.50	1
Cl4-BZ#54	ND		ng/cart	5.00	2.50	1
Cl3-BZ#29	ND		ng/cart	5.00	2.50	1
Cl4-BZ#50	ND		ng/cart	5.00	2.50	1
Cl3-BZ#26	ND		ng/cart	5.00	2.50	1
Cl3-BZ#25	ND		ng/cart	5.00	2.50	1
Cl4-BZ#53	ND		ng/cart	5.00	2.50	1
Cl3-BZ#-31	3.77	JB	ng/cart	5.00	2.50	1

Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

SAMPLE RESULTS

Lab ID: L1114221-04
Client ID: IA1-GYM-090911
Sample Location: LAWRENCE, MA

Date Collected: 09/09/11 19:05
Date Received: 09/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl3-BZ#28	3.66	JB	ng/cart	5.00	2.50	1
Cl3-BZ#33	ND		ng/cart	5.00	2.50	1
Cl4-BZ#51	ND		ng/cart	5.00	2.50	1
Cl3-BZ#21/#20	ND		ng/cart	10.0	5.00	1
Cl4-BZ#45	ND		ng/cart	5.00	2.50	1
Cl3-BZ#22	ND		ng/cart	5.00	2.50	1
Cl4-BZ#73/#46	ND		ng/cart	10.0	5.00	1
Cl4-BZ#69	ND		ng/cart	5.00	2.50	1
Cl4-BZ#43	ND		ng/cart	5.00	2.50	1
Cl3-BZ#36	ND		ng/cart	5.00	2.50	1
Cl4-BZ#52	14.2	B	ng/cart	5.00	2.50	1
Cl4-BZ#48	ND		ng/cart	5.00	2.50	1
Cl4-BZ#49	4.23	JB	ng/cart	5.00	2.50	1
Cl5-BZ#104	ND		ng/cart	5.00	2.50	1
Cl4-BZ#47	ND		ng/cart	5.00	2.50	1
Cl4-BZ#65/#75/#62	ND		ng/cart	15.0	7.50	1
Cl3-BZ#39	ND		ng/cart	5.00	2.50	1
Cl3-BZ#38	ND		ng/cart	5.00	2.50	1
Cl4-BZ#44	6.08	B	ng/cart	5.00	2.50	1
Cl4-BZ#59	ND		ng/cart	5.00	2.50	1
Cl4-BZ#42	ND		ng/cart	5.00	2.50	1
Cl4-BZ#71	ND		ng/cart	5.00	2.50	1
Cl3-BZ#35	ND		ng/cart	5.00	2.50	1
Cl4-BZ#41	ND		ng/cart	5.00	2.50	1
Cl4-BZ#72	ND		ng/cart	5.00	2.50	1
Cl5-BZ#96	ND		ng/cart	5.00	2.50	1
Cl5-BZ#103	ND		ng/cart	5.00	2.50	1
Cl4-BZ#68/#64	ND		ng/cart	10.0	5.00	1
Cl4-BZ#40	ND		ng/cart	5.00	2.50	1
Cl3-BZ#37	ND		ng/cart	5.00	2.50	1
Cl5-BZ#100	ND		ng/cart	5.00	2.50	1
Cl5-BZ#94	ND		ng/cart	5.00	2.50	1
Cl4-BZ#57	ND		ng/cart	5.00	2.50	1
Cl4-BZ#67/#58	ND		ng/cart	10.0	5.00	1
Cl5-BZ#102	ND		ng/cart	5.00	2.50	1
Cl4-BZ#61	ND		ng/cart	5.00	2.50	1
Cl5-BZ#98	ND		ng/cart	5.00	2.50	1
Cl4-BZ#76	ND		ng/cart	5.00	2.50	1
Cl5-BZ#93	ND		ng/cart	5.00	2.50	1

Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

SAMPLE RESULTS

Lab ID: L1114221-04
Client ID: IA1-GYM-090911
Sample Location: LAWRENCE, MA

Date Collected: 09/09/11 19:05
Date Received: 09/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl4-BZ#63	ND		ng/cart	5.00	2.50	1
Cl5-BZ#121/#95/#88	8.37	JB	ng/cart	15.0	7.50	1
Cl4-BZ#74	ND		ng/cart	5.00	2.50	1
Cl6-BZ#155	ND		ng/cart	5.00	2.50	1
Cl4-BZ#70	3.61	JB	ng/cart	5.00	2.50	1
Cl5-BZ#91	ND		ng/cart	5.00	2.50	1
Cl4-BZ#66	ND		ng/cart	5.00	2.50	1
Cl4-BZ#80	ND		ng/cart	5.00	2.50	1
Cl4-BZ#55	ND		ng/cart	5.00	2.50	1
Cl5-BZ#92	ND		ng/cart	5.00	2.50	1
Cl5-BZ#89/#84	ND		ng/cart	10.0	5.00	1
Cl5-BZ#101/#90	5.96	JB	ng/cart	10.0	5.00	1
Cl4-BZ#56	ND		ng/cart	5.00	2.50	1
Cl5-BZ#113	ND		ng/cart	5.00	2.50	1
Cl5-BZ#99	2.55	JB	ng/cart	5.00	2.50	1
Cl6-BZ#150	ND		ng/cart	5.00	2.50	1
Cl4-BZ#60	ND		ng/cart	5.00	2.50	1
Cl6-BZ#152	ND		ng/cart	5.00	2.50	1
Cl5-BZ#119	ND		ng/cart	5.00	2.50	1
Cl5-BZ#83/#125/#112	ND		ng/cart	15.0	7.50	1
Cl5-BZ#86/#109	ND		ng/cart	10.0	5.00	1
Cl5-BZ#97	ND		ng/cart	5.00	2.50	1
Cl5-BZ#116	ND		ng/cart	5.00	2.50	1
Cl5-BZ#87/#111	ND		ng/cart	10.0	5.00	1
Cl6-BZ#145	ND		ng/cart	5.00	2.50	1
Cl6-BZ#148	ND		ng/cart	5.00	2.50	1
Cl4-BZ#79	ND		ng/cart	5.00	2.50	1
Cl6-BZ#154	ND		ng/cart	5.00	2.50	1
Cl4-BZ#78	ND		ng/cart	5.00	2.50	1
Cl6-BZ#136	ND		ng/cart	5.00	2.50	1
Cl5-BZ#117	ND		ng/cart	5.00	2.50	1
Cl5-BZ#115	ND		ng/cart	5.00	2.50	1
Cl5-BZ#85	ND		ng/cart	5.00	2.50	1
Cl5-BZ#120	ND		ng/cart	5.00	2.50	1
Cl5-BZ#110	4.01	JB	ng/cart	5.00	2.50	1
Cl4-BZ#81	ND		ng/cart	5.00	2.50	1
Cl6-BZ#151	ND		ng/cart	5.00	2.50	1
Cl6-BZ#135	ND		ng/cart	5.00	2.50	1
Cl5-BZ#82	ND		ng/cart	5.00	2.50	1

Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

SAMPLE RESULTS

Lab ID: L1114221-04
Client ID: IA1-GYM-090911
Sample Location: LAWRENCE, MA

Date Collected: 09/09/11 19:05
Date Received: 09/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl6-BZ#144	ND		ng/cart	5.00	2.50	1
Cl6-BZ#147/#149	ND		ng/cart	10.0	5.00	1
Cl4-BZ#77	ND		ng/cart	5.00	2.50	1
Cl6-BZ#143/#139	ND		ng/cart	10.0	5.00	1
Cl5-BZ#124	ND		ng/cart	5.00	2.50	1
Cl6-BZ#140	ND		ng/cart	5.00	2.50	1
Cl5-BZ#108	ND		ng/cart	5.00	2.50	1
Cl5-BZ#107/#123	ND		ng/cart	10.0	5.00	1
Cl7-BZ#188	ND		ng/cart	5.00	2.50	1
Cl6-BZ#134	ND		ng/cart	5.00	2.50	1
Cl5-BZ#106	ND		ng/cart	5.00	2.50	1
Cl6-BZ#133	ND		ng/cart	5.00	2.50	1
Cl6-BZ#142	ND		ng/cart	5.00	2.50	1
Cl5-BZ#118	ND		ng/cart	5.00	2.50	1
Cl6-BZ#131	ND		ng/cart	5.00	2.50	1
Cl7-BZ#184	ND		ng/cart	5.00	2.50	1
Cl6-BZ#165	ND		ng/cart	5.00	2.50	1
Cl6-BZ#146	ND		ng/cart	5.00	2.50	1
Cl6-BZ#161	ND		ng/cart	5.00	2.50	1
Cl5-BZ#122	ND		ng/cart	5.00	2.50	1
Cl6-BZ#168	ND		ng/cart	5.00	2.50	1
Cl5-BZ#114	ND		ng/cart	5.00	2.50	1
Cl6-BZ#153	ND		ng/cart	5.00	2.50	1
Cl6-BZ#132	ND		ng/cart	5.00	2.50	1
Cl7-BZ#179	ND		ng/cart	5.00	2.50	1
Cl6-BZ#141	ND		ng/cart	5.00	2.50	1
Cl7-BZ#176	ND		ng/cart	5.00	2.50	1
Cl5-BZ#105	ND		ng/cart	5.00	2.50	1
Cl6-BZ#137	ND		ng/cart	5.00	2.50	1
Cl5-BZ#127	ND		ng/cart	5.00	2.50	1
Cl7-BZ#186	ND		ng/cart	5.00	2.50	1
Cl6-BZ#130/#164	ND		ng/cart	10.0	5.00	1
Cl7-BZ#178	ND		ng/cart	5.00	2.50	1
Cl6-BZ#138	ND		ng/cart	5.00	2.50	1
Cl6-BZ#163/#160	ND		ng/cart	10.0	5.00	1
Cl6-BZ#129/#158	ND		ng/cart	10.0	5.00	1
Cl7-BZ#182/#175	ND		ng/cart	10.0	5.00	1
Cl7-BZ#187	ND		ng/cart	5.00	2.50	1
Cl7-BZ#183	ND		ng/cart	5.00	2.50	1



Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

SAMPLE RESULTS

Lab ID: L1114221-04
Client ID: IA1-GYM-090911
Sample Location: LAWRENCE, MA

Date Collected: 09/09/11 19:05
Date Received: 09/12/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Cl6-BZ#166	ND		ng/cart	5.00	2.50	1
Cl6-BZ#159	ND		ng/cart	5.00	2.50	1
Cl5-BZ#126	ND		ng/cart	5.00	2.50	1
Cl7-BZ#185	ND		ng/cart	5.00	2.50	1
Cl6-BZ#162	ND		ng/cart	5.00	2.50	1
Cl7-BZ#174	ND		ng/cart	5.00	2.50	1
Cl6-BZ#128	ND		ng/cart	5.00	2.50	1
Cl6-BZ#167	ND		ng/cart	5.00	2.50	1
Cl8-BZ#202	ND		ng/cart	5.00	2.50	1
Cl7-BZ#181	ND		ng/cart	5.00	2.50	1
Cl7-BZ#177	ND		ng/cart	5.00	2.50	1
Cl8-BZ#204/#200-CAL	ND		ng/cart	10.0	5.00	1
Cl7-BZ#171	ND		ng/cart	5.00	2.50	1
Cl7-BZ#173	ND		ng/cart	5.00	2.50	1
Cl8-BZ#197	ND		ng/cart	5.00	2.50	1
Cl7-BZ#172	ND		ng/cart	5.00	2.50	1
Cl7-BZ#192	ND		ng/cart	5.00	2.50	1
Cl6-BZ#156	ND		ng/cart	5.00	2.50	1
Cl6-BZ#157	ND		ng/cart	5.00	2.50	1
Cl7-BZ#180	ND		ng/cart	5.00	2.50	1
Cl7-BZ#193	ND		ng/cart	5.00	2.50	1
Cl8-BZ#199	ND		ng/cart	5.00	2.50	1
Cl7-BZ#191	ND		ng/cart	5.00	2.50	1
Cl8-BZ#198	ND		ng/cart	5.00	2.50	1
Cl8-BZ#201	ND		ng/cart	5.00	2.50	1
Cl7-BZ#170	ND		ng/cart	5.00	2.50	1
Cl7-BZ#190	ND		ng/cart	5.00	2.50	1
Cl8-BZ#196	ND		ng/cart	5.00	2.50	1
Cl8-BZ#203	ND		ng/cart	5.00	2.50	1
Cl6-BZ#169	ND		ng/cart	5.00	2.50	1
Cl9-BZ#208	ND		ng/cart	5.00	2.50	1
Cl9-BZ#207	ND		ng/cart	5.00	2.50	1
Cl7-BZ#189	ND		ng/cart	5.00	2.50	1
Cl8-BZ#195	ND		ng/cart	5.00	2.50	1
Cl8-BZ#194	ND		ng/cart	5.00	2.50	1
Cl8-BZ#205	ND		ng/cart	5.00	2.50	1
Cl9-BZ#206	ND		ng/cart	5.00	2.50	1
Cl10-BZ#209	ND		ng/cart	5.00	2.50	1
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	1

Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

SAMPLE RESULTS

Lab ID: L1114221-04
 Client ID: IA1-GYM-090911
 Sample Location: LAWRENCE, MA

Date Collected: 09/09/11 19:05
 Date Received: 09/12/11
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners/Homologs - Mansfield Lab						
Dichlorobiphenyls	17.5	B	ng/cart	5.00	2.50	1
Trichlorobiphenyls	25.0	B	ng/cart	5.00	2.50	1
Tetrachlorobiphenyls	28.1	B	ng/cart	5.00	2.50	1
Pentachlorobiphenyls	20.9	B	ng/cart	5.00	2.50	1
Hexachlorobiphenyls	ND		ng/cart	5.00	2.50	1
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50	1
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	1
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	1
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	1
Total Homologs	91.5	B	ng/cart	5.00	2.50	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	155	Q	50-125
Cl8-BZ#202-C13	128	Q	50-125

Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 105,680/8270C-SIM(M)
Analytical Date: 09/30/11 19:39
Analyst: JD

Extraction Method: EPA 3540C
Extraction Date: 09/14/11 11:30

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners/Homologs - Mansfield Lab for sample(s): 01-04 Batch: WG489793-1					
Cl1-BZ#1	37.8		ng/cart	5.00	2.50
Cl1-BZ#2	ND		ng/cart	5.00	2.50
Cl1-BZ#3	41.5		ng/cart	5.00	2.50
Cl2-BZ#4/#10	46.8		ng/cart	10.0	5.00
Cl2-BZ#9	ND		ng/cart	5.00	2.50
Cl2-BZ#7	ND		ng/cart	5.00	2.50
Cl2-BZ#6	ND		ng/cart	5.00	2.50
Cl2-BZ#5	ND		ng/cart	5.00	2.50
Cl2-BZ#8	40.0		ng/cart	5.00	2.50
Cl3-BZ#19	43.0		ng/cart	5.00	2.50
Cl2-BZ#14	ND		ng/cart	5.00	2.50
Cl3-BZ#30	ND		ng/cart	5.00	2.50
Cl3-BZ#18	39.4		ng/cart	5.00	2.50
Cl2-BZ#11	ND		ng/cart	5.00	2.50
Cl3-BZ#17	ND		ng/cart	5.00	2.50
Cl2-BZ#12	ND		ng/cart	5.00	2.50
Cl3-BZ#27	ND		ng/cart	5.00	2.50
Cl2-BZ#13	ND		ng/cart	5.00	2.50
Cl3-BZ#24	ND		ng/cart	5.00	2.50
Cl3-BZ#16	ND		ng/cart	5.00	2.50
Cl3-BZ#32	ND		ng/cart	5.00	2.50
Cl2-BZ#15	43.1		ng/cart	5.00	2.50
Cl3-BZ#34	ND		ng/cart	5.00	2.50
Cl3-BZ#23	ND		ng/cart	5.00	2.50
Cl4-BZ#54	45.9		ng/cart	5.00	2.50
Cl3-BZ#29	33.5		ng/cart	5.00	2.50
Cl4-BZ#50	37.9		ng/cart	5.00	2.50
Cl3-BZ#26	ND		ng/cart	5.00	2.50
Cl3-BZ#25	ND		ng/cart	5.00	2.50
Cl4-BZ#53	ND		ng/cart	5.00	2.50
Cl3-BZ#-31	35.1		ng/cart	5.00	2.50



Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 105,680/8270C-SIM(M)
Analytical Date: 09/30/11 19:39
Analyst: JD

Extraction Method: EPA 3540C
Extraction Date: 09/14/11 11:30

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners/Homologs - Mansfield Lab for sample(s): 01-04 Batch: WG489793-1					
Cl3-BZ#28	38.3		ng/cart	5.00	2.50
Cl3-BZ#33	ND		ng/cart	5.00	2.50
Cl4-BZ#51	ND		ng/cart	5.00	2.50
Cl3-BZ#21/#20	ND		ng/cart	10.0	5.00
Cl4-BZ#45	41.1		ng/cart	5.00	2.50
Cl3-BZ#22	ND		ng/cart	5.00	2.50
Cl4-BZ#73/#46	ND		ng/cart	10.0	5.00
Cl4-BZ#69	ND		ng/cart	5.00	2.50
Cl4-BZ#43	ND		ng/cart	5.00	2.50
Cl3-BZ#36	ND		ng/cart	5.00	2.50
Cl4-BZ#52	38.3		ng/cart	5.00	2.50
Cl4-BZ#48	ND		ng/cart	5.00	2.50
Cl4-BZ#49	33.3		ng/cart	5.00	2.50
Cl5-BZ#104	37.7		ng/cart	5.00	2.50
Cl4-BZ#47	37.2		ng/cart	5.00	2.50
Cl4-BZ#65/#75/#62	ND		ng/cart	15.0	7.50
Cl3-BZ#39	ND		ng/cart	5.00	2.50
Cl3-BZ#38	ND		ng/cart	5.00	2.50
Cl4-BZ#44	41.6		ng/cart	5.00	2.50
Cl4-BZ#59	ND		ng/cart	5.00	2.50
Cl4-BZ#42	ND		ng/cart	5.00	2.50
Cl4-BZ#71	ND		ng/cart	5.00	2.50
Cl3-BZ#35	ND		ng/cart	5.00	2.50
Cl4-BZ#41	ND		ng/cart	5.00	2.50
Cl4-BZ#72	ND		ng/cart	5.00	2.50
Cl5-BZ#96	ND		ng/cart	5.00	2.50
Cl5-BZ#103	ND		ng/cart	5.00	2.50
Cl4-BZ#68/#64	ND		ng/cart	10.0	5.00
Cl4-BZ#40	ND		ng/cart	5.00	2.50
Cl3-BZ#37	26.1		ng/cart	5.00	2.50
Cl5-BZ#100	ND		ng/cart	5.00	2.50



Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 105,680/8270C-SIM(M)
Analytical Date: 09/30/11 19:39
Analyst: JD

Extraction Method: EPA 3540C
Extraction Date: 09/14/11 11:30

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners/Homologs - Mansfield Lab for sample(s): 01-04 Batch: WG489793-1					
Cl5-BZ#94	ND		ng/cart	5.00	2.50
Cl4-BZ#57	ND		ng/cart	5.00	2.50
Cl4-BZ#67/#58	ND		ng/cart	10.0	5.00
Cl5-BZ#102	ND		ng/cart	5.00	2.50
Cl4-BZ#61	ND		ng/cart	5.00	2.50
Cl5-BZ#98	ND		ng/cart	5.00	2.50
Cl4-BZ#76	ND		ng/cart	5.00	2.50
Cl5-BZ#93	ND		ng/cart	5.00	2.50
Cl4-BZ#63	ND		ng/cart	5.00	2.50
Cl5-BZ#121/#95/#88	32.6		ng/cart	15.0	7.50
Cl4-BZ#74	34.4		ng/cart	5.00	2.50
Cl6-BZ#155	33.2		ng/cart	5.00	2.50
Cl4-BZ#70	35.3		ng/cart	5.00	2.50
Cl5-BZ#91	ND		ng/cart	5.00	2.50
Cl4-BZ#66	37.7		ng/cart	5.00	2.50
Cl4-BZ#80	ND		ng/cart	5.00	2.50
Cl4-BZ#55	ND		ng/cart	5.00	2.50
Cl5-BZ#92	ND		ng/cart	5.00	2.50
Cl5-BZ#89/#84	ND		ng/cart	10.0	5.00
Cl5-BZ#101/#90	33.2		ng/cart	10.0	5.00
Cl4-BZ#56	35.0		ng/cart	5.00	2.50
Cl5-BZ#113	ND		ng/cart	5.00	2.50
Cl5-BZ#99	37.0		ng/cart	5.00	2.50
Cl6-BZ#150	ND		ng/cart	5.00	2.50
Cl4-BZ#60	ND		ng/cart	5.00	2.50
Cl6-BZ#152	ND		ng/cart	5.00	2.50
Cl5-BZ#119	ND		ng/cart	5.00	2.50
Cl5-BZ#83/#125/#112	ND		ng/cart	15.0	7.50
Cl5-BZ#86/#109	ND		ng/cart	10.0	5.00
Cl5-BZ#97	ND		ng/cart	5.00	2.50
Cl5-BZ#116	ND		ng/cart	5.00	2.50



Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 105,680/8270C-SIM(M)
Analytical Date: 09/30/11 19:39
Analyst: JD

Extraction Method: EPA 3540C
Extraction Date: 09/14/11 11:30

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners/Homologs - Mansfield Lab for sample(s): 01-04 Batch: WG489793-1					
Cl5-BZ#87/#111	30.6		ng/cart	10.0	5.00
Cl6-BZ#145	ND		ng/cart	5.00	2.50
Cl6-BZ#148	ND		ng/cart	5.00	2.50
Cl4-BZ#79	ND		ng/cart	5.00	2.50
Cl6-BZ#154	34.7		ng/cart	5.00	2.50
Cl4-BZ#78	ND		ng/cart	5.00	2.50
Cl6-BZ#136	ND		ng/cart	5.00	2.50
Cl5-BZ#117	ND		ng/cart	5.00	2.50
Cl5-BZ#115	ND		ng/cart	5.00	2.50
Cl5-BZ#85	ND		ng/cart	5.00	2.50
Cl5-BZ#120	ND		ng/cart	5.00	2.50
Cl5-BZ#110	39.7		ng/cart	5.00	2.50
Cl4-BZ#81	36.7		ng/cart	5.00	2.50
Cl6-BZ#151	35.2		ng/cart	5.00	2.50
Cl6-BZ#135	ND		ng/cart	5.00	2.50
Cl5-BZ#82	ND		ng/cart	5.00	2.50
Cl6-BZ#144	ND		ng/cart	5.00	2.50
Cl6-BZ#147/#149	39.1		ng/cart	10.0	5.00
Cl4-BZ#77	33.7		ng/cart	5.00	2.50
Cl6-BZ#143/#139	ND		ng/cart	10.0	5.00
Cl5-BZ#124	ND		ng/cart	5.00	2.50
Cl6-BZ#140	ND		ng/cart	5.00	2.50
Cl5-BZ#108	ND		ng/cart	5.00	2.50
Cl5-BZ#107/#123	29.8		ng/cart	10.0	5.00
Cl7-BZ#188	31.5		ng/cart	5.00	2.50
Cl6-BZ#134	ND		ng/cart	5.00	2.50
Cl5-BZ#106	ND		ng/cart	5.00	2.50
Cl6-BZ#133	ND		ng/cart	5.00	2.50
Cl6-BZ#142	ND		ng/cart	5.00	2.50
Cl5-BZ#118	29.9		ng/cart	5.00	2.50
Cl6-BZ#131	ND		ng/cart	5.00	2.50



Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 105,680/8270C-SIM(M)
Analytical Date: 09/30/11 19:39
Analyst: JD

Extraction Method: EPA 3540C
Extraction Date: 09/14/11 11:30

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners/Homologs - Mansfield Lab for sample(s): 01-04 Batch: WG489793-1					
Cl7-BZ#184	ND		ng/cart	5.00	2.50
Cl6-BZ#165	ND		ng/cart	5.00	2.50
Cl6-BZ#146	31.6		ng/cart	5.00	2.50
Cl6-BZ#161	ND		ng/cart	5.00	2.50
Cl5-BZ#122	ND		ng/cart	5.00	2.50
Cl6-BZ#168	ND		ng/cart	5.00	2.50
Cl5-BZ#114	29.2		ng/cart	5.00	2.50
Cl6-BZ#153	41.3		ng/cart	5.00	2.50
Cl6-BZ#132	ND		ng/cart	5.00	2.50
Cl7-BZ#179	ND		ng/cart	5.00	2.50
Cl6-BZ#141	ND		ng/cart	5.00	2.50
Cl7-BZ#176	ND		ng/cart	5.00	2.50
Cl5-BZ#105	27.5		ng/cart	5.00	2.50
Cl6-BZ#137	ND		ng/cart	5.00	2.50
Cl5-BZ#127	ND		ng/cart	5.00	2.50
Cl7-BZ#186	ND		ng/cart	5.00	2.50
Cl6-BZ#130/#164	ND		ng/cart	10.0	5.00
Cl7-BZ#178	ND		ng/cart	5.00	2.50
Cl6-BZ#138	34.8		ng/cart	5.00	2.50
Cl6-BZ#163/#160	ND		ng/cart	10.0	5.00
Cl6-BZ#129/#158	42.0		ng/cart	10.0	5.00
Cl7-BZ#182/#175	ND		ng/cart	10.0	5.00
Cl7-BZ#187	38.6		ng/cart	5.00	2.50
Cl7-BZ#183	36.2		ng/cart	5.00	2.50
Cl6-BZ#166	ND		ng/cart	5.00	2.50
Cl6-BZ#159	ND		ng/cart	5.00	2.50
Cl5-BZ#126	33.5		ng/cart	5.00	2.50
Cl7-BZ#185	ND		ng/cart	5.00	2.50
Cl6-BZ#162	ND		ng/cart	5.00	2.50
Cl7-BZ#174	38.8		ng/cart	5.00	2.50
Cl6-BZ#128	37.0		ng/cart	5.00	2.50



Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 105,680/8270C-SIM(M)
Analytical Date: 09/30/11 19:39
Analyst: JD

Extraction Method: EPA 3540C
Extraction Date: 09/14/11 11:30

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners/Homologs - Mansfield Lab for sample(s): 01-04 Batch: WG489793-1					
Cl6-BZ#167	35.7		ng/cart	5.00	2.50
Cl8-BZ#202	43.2		ng/cart	5.00	2.50
Cl7-BZ#181	ND		ng/cart	5.00	2.50
Cl7-BZ#177	38.2		ng/cart	5.00	2.50
Cl8-BZ#204/#200-CAL	38.8		ng/cart	10.0	5.00
Cl7-BZ#171	ND		ng/cart	5.00	2.50
Cl7-BZ#173	ND		ng/cart	5.00	2.50
Cl8-BZ#197	ND		ng/cart	5.00	2.50
Cl7-BZ#172	ND		ng/cart	5.00	2.50
Cl7-BZ#192	ND		ng/cart	5.00	2.50
Cl6-BZ#156	30.2		ng/cart	5.00	2.50
Cl6-BZ#157	38.3		ng/cart	5.00	2.50
Cl7-BZ#180	37.8		ng/cart	5.00	2.50
Cl7-BZ#193	ND		ng/cart	5.00	2.50
Cl8-BZ#199	ND		ng/cart	5.00	2.50
Cl7-BZ#191	ND		ng/cart	5.00	2.50
Cl8-BZ#198	ND		ng/cart	5.00	2.50
Cl8-BZ#201	39.5		ng/cart	5.00	2.50
Cl7-BZ#170	34.8		ng/cart	5.00	2.50
Cl7-BZ#190	ND		ng/cart	5.00	2.50
Cl8-BZ#196	ND		ng/cart	5.00	2.50
Cl8-BZ#203	ND		ng/cart	5.00	2.50
Cl6-BZ#169	34.6		ng/cart	5.00	2.50
Cl9-BZ#208	39.4		ng/cart	5.00	2.50
Cl9-BZ#207	ND		ng/cart	5.00	2.50
Cl7-BZ#189	34.2		ng/cart	5.00	2.50
Cl8-BZ#195	36.0		ng/cart	5.00	2.50
Cl8-BZ#194	35.2		ng/cart	5.00	2.50
Cl8-BZ#205	35.6		ng/cart	5.00	2.50
Cl9-BZ#206	36.9		ng/cart	5.00	2.50
Cl10-BZ#209	34.4		ng/cart	5.00	2.50



Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 105,680/8270C-SIM(M)
Analytical Date: 09/30/11 19:39
Analyst: JD

Extraction Method: EPA 3540C
Extraction Date: 09/14/11 11:30

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners/Homologs - Mansfield Lab for sample(s): 01-04 Batch: WG489793-1					
Monochlorobiphenyls	79.3		ng/cart	5.00	2.50
Dichlorobiphenyls	130		ng/cart	5.00	2.50
Trichlorobiphenyls	215		ng/cart	5.00	2.50
Tetrachlorobiphenyls	488		ng/cart	5.00	2.50
Pentachlorobiphenyls	361		ng/cart	5.00	2.50
Hexachlorobiphenyls	468		ng/cart	5.00	2.50
Heptachlorobiphenyls	290		ng/cart	5.00	2.50
Octachlorobiphenyls	228		ng/cart	5.00	2.50
Nonachlorobiphenyls	76.3		ng/cart	5.00	2.50
Decachlorobiphenyl	34.4		ng/cart	5.00	2.50
Total Homologs	2370		ng/cart	5.00	2.50

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	110		50-125
Cl8-BZ#202-C13	99		50-125

Lab Control Sample Analysis

Batch Quality Control

Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners/Homologs - Mansfield Lab Associated sample(s): 01-04 Batch: WG489793-2								
Cl1-BZ#1	102		-		40-140	-		30
CL1-BZ#3	100		-		40-140	-		30
Cl2-BZ#4/#10	115		-		40-140	-		30
Cl2-BZ#8	96		-		40-140	-		30
Cl3-BZ#19	98		-		40-140	-		30
Cl3-BZ#18	94		-		40-140	-		30
Cl2-BZ#15	92		-		40-140	-		30
Cl4-BZ#54	99		-		40-140	-		30
Cl3-BZ#29	81		-		40-140	-		30
Cl4-BZ#50	90		-		40-140	-		30
Cl3-BZ#-31	84		-		40-140	-		30
Cl3-BZ#28	92		-		40-140	-		30
Cl4-BZ#45	90		-		40-140	-		30
Cl4-BZ#52	87		-		40-140	-		30
Cl4-BZ#49	79		-		40-140	-		30
Cl5-BZ#104	88		-		40-140	-		30
Cl4-BZ#47	89		-		40-140	-		30
Cl4-BZ#44	92		-		40-140	-		30
Cl3-BZ#37	56		-		40-140	-		30
Cl5-BZ#121/#95/#88	69		-		40-140	-		30
Cl4-BZ#74	83		-		40-140	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners/Homologs - Mansfield Lab Associated sample(s): 01-04 Batch: WG489793-2								
Cl6-BZ#155	84		-		40-140	-		30
Cl4-BZ#70	84		-		40-140	-		30
Cl4-BZ#66	88		-		40-140	-		30
Cl5-BZ#101/#90	78		-		40-140	-		30
Cl4-BZ#56	80		-		40-140	-		30
Cl5-BZ#99	81		-		40-140	-		30
Cl5-BZ#87/#111	69		-		40-140	-		30
Cl6-BZ#154	84		-		40-140	-		30
Cl5-BZ#110	84		-		40-140	-		30
Cl4-BZ#81	83		-		40-140	-		30
Cl6-BZ#151	85		-		40-140	-		30
Cl6-BZ#147/#149	86		-		40-140	-		30
Cl4-BZ#77	76		-		40-140	-		30
Cl5-BZ#107/#123	67		-		40-140	-		30
Cl7-BZ#188	80		-		40-140	-		30
Cl5-BZ#118	70		-		40-140	-		30
Cl6-BZ#146	78		-		40-140	-		30
Cl5-BZ#114	71		-		40-140	-		30
Cl6-BZ#153	101		-		40-140	-		30
Cl5-BZ#105	60		-		40-140	-		30
Cl6-BZ#138	65		-		40-140	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners/Homologs - Mansfield Lab Associated sample(s): 01-04 Batch: WG489793-2								
Cl6-BZ#129/#158	89		-		40-140	-		30
Cl7-BZ#187	84		-		40-140	-		30
Cl7-BZ#183	82		-		40-140	-		30
Cl5-BZ#126	69		-		40-140	-		30
Cl7-BZ#174	85		-		40-140	-		30
Cl6-BZ#128	80		-		40-140	-		30
Cl6-BZ#167	84		-		40-140	-		30
Cl8-BZ#202	102		-		40-140	-		30
Cl7-BZ#177	82		-		40-140	-		30
Cl8-BZ#204/#200-CAL	87		-		40-140	-		30
Cl6-BZ#156	67		-		40-140	-		30
Cl6-BZ#157	82		-		40-140	-		30
Cl7-BZ#180	86		-		40-140	-		30
Cl8-BZ#201	83		-		40-140	-		30
Cl7-BZ#170	78		-		40-140	-		30
Cl6-BZ#169	72		-		40-140	-		30
Cl9-BZ#208	84		-		40-140	-		30
Cl7-BZ#189	71		-		40-140	-		30
Cl8-BZ#195	81		-		40-140	-		30
Cl8-BZ#194	77		-		40-140	-		30
Cl8-BZ#205	77		-		40-140	-		30

Lab Control Sample Analysis**Batch Quality Control**

Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners/Homologs - Mansfield Lab Associated sample(s): 01-04 Batch: WG489793-2								
Cl9-BZ#206	75		-		40-140	-		30
Cl10-BZ#209	79		-		40-140	-		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Cl3-BZ#19-C13	95				50-125
Cl8-BZ#202-C13	83				50-125

Project Name: CCHS**Lab Number:** L1114221**Project Number:** 061.01307.014**Report Date:** 10/05/11**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Reagent H2O Preserved Vials Frozen on: NA**Cooler Information Custody Seal****Cooler**

A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1114221-01A	PUF Air Cartridge - High or Low	A	N/A	3.5	Y	Absent	A2-PCB209-C/H-8270(7)
L1114221-02A	PUF Air Cartridge - High or Low	A	N/A	3.5	Y	Absent	A2-PCB209-C/H-8270(7)
L1114221-03A	PUF Air Cartridge - High or Low	A	N/A	3.5	Y	Absent	A2-PCB209-C/H-8270(7)
L1114221-04A	PUF Air Cartridge - High or Low	A	N/A	3.5	Y	Absent	A2-PCB209-C/H-8270(7)

*Values in parentheses indicate holding time in days

Project Name: CCHS
Project Number: 061.01307.014

Lab Number: L1114221
Report Date: 10/05/11

GLOSSARY

Acronyms

EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
C	- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
D	- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
G	- The concentration may be biased high due to matrix interferences (i.e., co-elution) with non-target compound(s). The result should be considered estimated.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
I	- The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.
M	- Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
NJ	- Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

Report Format: DU Report with "J" Qualifiers



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Data Qualifiers

- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL). This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample.

Report Format: DU Report with "J" Qualifiers



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REFERENCES

- 105 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997 in conjunction with Determination of Pesticides and PCBs in Water and Oil/Sediment by GC/MS: Method 680. EPA 01A0005295, November 1985.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certificate/Approval Program Summary

Last revised September 19, 2011 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: SM2320B, SM2540D, SM2540G.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: EPA 180.1, 245.7, 1631E, 3020, 6020A, 7470A, 9040, 9050A, SM2320B, 2540D, 2540G, 4500H-B, Organic Parameters: EPA 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 5030B, 8015D, 3570, 8081B, 8082A, 8260B, 8270C, 8270D.)

Solid & Chemical Materials (Inorganic Parameters: EPA 1311, 3050, 3051A, 3060A, 6020A, 7196A, 7470A, 7471B, 7474, 9040B, 9045C, 9060. Organic Parameters: EPA 3540C, 3570B, 3580A, 3630C, 3640A, 3660, 3665A, 5035, 8015D, 8081B, 8082A, 8260B, 8270C, 8270D.)

Biological Tissue (Inorganic Parameters: EPA 6020A. Organic Parameters: EPA 3570, 3510C, 3610B, 3630C, 3640A, 8270C, 8270D.)

Air & Emissions (EPA TO-15.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: EPA 245.7, 1631E, 6020A, 7470A, 9040B, 9050A, SM2540D, 2540G, 4500H+B, 2320B. Organic Parameters: EPA 8081B, 8082A, 8260B, 8270C, 8015D.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 1311, 1312, 3050B, 3051A, 3060A, 6020A, 7471A, 9040B, 9045C, 7196A. Organic Parameters: SW-846 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 5035, 8260B, 8270C, 8015D, 8082A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, SM2320B, SM2540D, 2540G, , EPA 180.1, 1631E, SW-846 7470A, 9040B, 6020. Organic Parameters: SW-846 3510C, 3580A, 5030B, 5035L, 5035H, 3630C, 3640C, 3660B, 3665A, 8015B 8081A, 8082, 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9040B, 9045C, 9050A, 9060. Organic Parameters: SW-846 3540C, 3570, 3580A, 5030B, 5035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610C, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: SM2320B, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 245.7, 7470A, 9014, 9040B, 9050, 120.1, 4500CN-E, 4500H-B, EPA 376.2, 180.1, 3020A. Organic Parameters: EPA 8260B, 8270C, 8081A, 8082, 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 6020, 7196A, 3060A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 1312, 3050B, 3580, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Pennsylvania Certificate/Lab ID: 68-02089 **NELAP Accredited**

Solid & Hazardous Waste (Inorganic Parameters: EPA 6020A, 7471B, 7474. Organic Parameters: EPA 3050B, 3540C, 3630C, 8270C, 8081B, 8082A.)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. **NELAP Accredited via LA-DEQ.**

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. **NELAP Accredited.**

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

Air (Organic Parameters: EPA TO-15)

Washington State Department of Ecology Certificate/Lab ID: C954. *Non-Potable Water* (Inorganic Parameters: SM2540D, 2510B, EPA 120.1, 180.1, 1631E, 245.7.)

Solid & Chemical Materials (Inorganic Parameters: EPA 9040, 9060, 6020, 7470, 7471, 7474. Organic Parameters: EPA 8081, 8082, 8015 Mod, 8270, 8260.)

U.S. Army Corps of Engineers

Department of Defense Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 6020A, SM4500H-B. Organic Parameters: 3020A, 3510C, 5030B, 8260B, 8270C, 8270C-ALK-PAH, 8082, 8081A, 8015D-SHC.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 3050B, 6020A, 7471A, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580A, 3570, 3540C, 5035A, 8260B, 8270C, 8270-ALK-PAH, 8082, 8081A, 8015D-SHC, 8015-DRO.

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **8270C**: Biphenyl. **TO-15**: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 2-Methylnaphthalene, 1-Methylnaphthalene.

